



User Guide (Ver. 3.2)

Model: D4RS, D8RS, D16RS, D4WRS, D8WRS, D16WRS

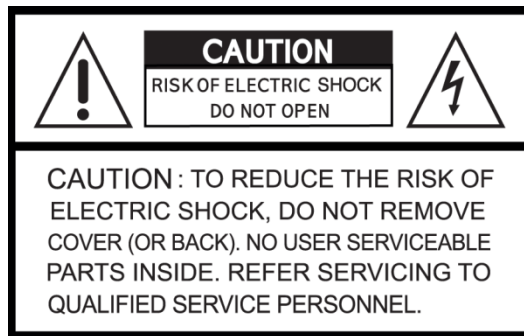
4, 8, 16 Channel Digital Video Recorder



About This User's Guide

Before operating the unit, please read this user's guide thoroughly and retain it for future reference.

Cautions



Explanation of Graphical Symbols



This symbol indicates the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.



This symbol indicates the presence of “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock, property damage, personal injury, or death.

WARNING

To reduce a risk of fire or electric shock, do not expose this product to rain or moisture.

CAUTION

Changes or modifications not approved by the manufacture will void the warranty of the product.

Using an incompatible battery may increase the risk of fire or explosion.

Replace only with the same or equivalent type battery recommended by the manufacture.

Discard used batteries according to manufacturer’s instructions.

These Precautions must be Followed for Safety Reasons











Warning

- Do not use if the unit emits smoke.
- Do not disassemble the unit.
- Do not place any heavy or sharp objects on the unit.
- Do not place on uneven surface.
- Do not expose to shock or vibration.
- Do not move the unit when the unit is powered on.
- Do not block, and allow dust to accumulate in the air vents.
- Do not restrict airflow of the unit; doing so can damage the unit.
- Only qualified and experienced personnel should perform installation and servicing.
- Turn off the power of the DVR when connecting Cameras, Audio or Sensor Cables.
- The manufacture is not responsible for any damage caused by improper use of the product or failure to follow instructions for the product.
- The manufacture is not responsible for any problems caused by or resulting from the user physically opening the DVR for examination or attempting to repair the unit.
- The manufacture may not be held liable for any issues with the unit if the warranty seal is removed.

Product Components

Please make sure the following components are included as specified below.

<p>DVR Unit (D4WRS/D8WRS/D16WRS or D4RS/D8RS/D16RS)</p>	
<p>Remote Control</p>	
<p>Battery 1.5V (AAA x 2EA)</p>	
<p>Quick Start Guide</p>	
<p>Mouse for D4RS/D8RS/D16RS</p>	
<p>Software & Manual CD</p>	
<p>Adaptor (DC12V 3A for D4RS/D4WRS, DC12V 5A for D8RS/D16RS/ D8WRS/D16WRS) & Power cable (110V or 220V)</p>	
<p>Audio Cable for D8RS/D16RS/D8WRS/D16WRS</p>	

Specifications

ITEM				D4RS/D4WRS	D8RS/D8WRS	16RS/D16WRS
Video	Input	Channel, Input Level		4CH/ 8CH/ 16CH Composite, 1.0Vp-p, 75ohm		
		Signal Format		NTSC/PAL		
		Video Loss Check		Yes		
	Output	VGA		1 VGA (1024x768, 1280x1024)		
		CVBS		1 BNC	1 BNC	1 BNC
		SPOT		-	1 BNC	1 BNC
Audio	Input & Output			4 CH Line input & 1 CH Line output		
	Audio Codec			G.711		
Sensor/ Alarm	Sensor Input			4 (NC / NO Selectable)		
	Alarm Out			1 Alarm Out by Sensor, Motion and Video Loss		
Record	Compression			H.264		
	Multi-operation			QUADPLEX (Playback/Record/Network/Backup)		
	Resolution	NTSC	D1	120fps	120fps	120fps
			Half D1	120fps	240fps	240fps
			CIF	120fps	240fps	480fps
		PAL	D1	100fps	100fps	100fps
			Half D1	100fps	200fps	200fps
			CIF	100fps	200fps	400fps
	Recording quality grade			LEVEL1 (L) ~ LEVEL5 (H)		
	Recording Mode			Continuous/Schedule/ Motion/Manual/Sensor		
	Motion Detection			Motion detection setup by Grid		
	Recording by channel's Resolution			Yes		
	Pre Recording			1 fps for up to 20minutes before an event		
	Post Recording			10 seconds to 3 minutes after an event		
Display	Frame Rate (/Sec)			NTSC: 30fps/CH, 60 fields / PAL: 25fps/CH, 50 fields		
Playback	Multi-Decoding			1, 4	1, 4, 8	1, 4, 9, 16
	Playback Speed	Single channel		×2, 4, 8, 16, 32, 64		
		Multi-channels		×2, 4, 8, 16, 32	×2, 4, 8, 16	×2, 4, 8
	Search Mode			Timeline, Event, Archive, Log		
Storage	HDD	Interface Type		Serial ATA		
		Capacity of 1 HDD		D4RS/D4WRS: Max. 1 TB D8RS/D8WRS/D16RS/D16WRS: Max. 2 TB		
		Internal HDD No.		1		
	File system			NaFS		
	USB Port			2 (Front 1, Rear 1)		

	Backup	USB Flash drive	Video & Still Image		
		Network	Video & Still Image		
		Huge Backup	Yes (up to 24 hours)		
User I/F	Menu Display		GUI		
	Input Method		Remote control, Mouse		
RS-485	PTZ control		1 RS-485	1 RS-485	1 RS-485
Network	Dynamic DNS		Yes (Free DDNS)		
	Network Interface		10/100 base-TX Ethernet (RJ-45)	10/100/ 1000 base-TX Ethernet (RJ-45)	
	Dual Encoding for Network Streaming		CIF 60fps	CIF 120fps	
Network Access	Web Viewer (1:1)		Live, Search, Backup, Remote Setup, PTZ control		
	Mobile View Software (1:1)		Live, Search, PTZ control		
	Multi-sites Monitoring System (1:n)		Live, Search, Backup, Remote Setup, PTZ control		
Features	DLS (Day Light Saving)		Yes		
	EZRecord		Yes		
	S.M.A.R.T		Yes		
	Internal Beep		By Video Loss, HDD Error, S.M.A.R.T		
	Multi-Language		Yes		
	S/W Upgrade		USB Flash drive, Remote S/W Upgrade		
	NTP		Yes		
	Mobile Phone Viewer		Yes		
Power Source	Power Supply Voltage		DC 12V 3A	DC 12V 5A	
Allowable operation temperature During operation			5°C - 40°C, During storage: -10°C - +50°C		
Allowable operation humidity			20 % - 80 %		
Weight	Unit Weight (Gross weight)		DxxRS: Around 3.74 lbs (Around 7 lbs)		
Dimension	Unit Dimension (W x H x D)		DxxRS: 13.6" x 2.56" x 10.48"		

Please note that specifications and unit exterior design are subject to change without notification

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1. Main Features

- Easy Record, Copy and Setup
- Recording Rate: 120fps @ D1
- H.264 high quality compression saves HDD space
- Simultaneous live view/playback while continuing to record/network transfer or backup
- Remote monitoring/recording/playback/configuration and control via internet
- 4 Channel Audio Recording

NOTE: Under federal law, The Fourth Amendment to the U.S. Constitution, Title III of the Omnibus Crime Control and Safe Streets Act of 1968, as amended by the Electronic Communications Privacy Act of 1986 (18 U.S.C. § 2510, *et seq.*), and the Foreign Intelligence Surveillance Act of 1978 (50 U.S.C. 1801, *et seq.*) permit government agents, acting with the consent of a party to a communication, to engage in warrantless interceptions of telephone communications, as well as oral and electronic communications.

- Automatic camera detection (Plug & Play)
- Covert camera operation provides enhanced security and administrator control
- Dynamically programmable recording priority, motion detection, alarms and scheduling
- Simple and Easy Graphic User Interface
- Simple Scheduler
- VGA Output
- Password to secure installation authorization
- Network software supports 10/100Mbps
- USB 2.0 port for video clip exporting and easy firmware upgrade via USB Flash Drive
- Exclusive File Format Backup and Player
- Variety of Ways Network Access via CMS Network Client Software, Web-Viewer, and Mobile Viewer
- S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology for HDD)

2. Initial Boot up Process

2-1. Initial Boot up and Basic Time Setup

1. During the first boot up, the following logo and message will be displayed.



Initializing system
It may take a few seconds or minutes to check system.



Initializing...

2. After the system initializing is completed, select the language and set date and time as specified below.

Choose language.

ENGLISH ▼

<PREV

NEXT>

CLOSE

Set date and time

☐ SET DATE & TIME

2011 ▼ / 3 ▼ / 8 ▼ 16 ▼ / 0 ▼ / 0 ▼

<PREV

NEXT>

CLOSE

2-2. Setting Daylight Saving Time

To enable Daylight Saving feature/NTP synchronization, take the following steps.

1. Enter the SETUP mode. The default Username is "ADMIN" and Password is "1111".



LOGIN - SETUP

USER

PASSWORD

2. Go to SETUP > SYSTEM > DATE & TIME SETUP



3. Select ON from the DAYLIGHT SAVING dropdown menu.

DAYLIGHT SAVING: OFF

☐ SET DATE & TIME: 2011 / 3 / 8 16 / 0 / 0

OK CANCEL

2-3. Setting NTP (Network Time Protocol)

1. SETUP > SYSTEM > NTP SETUP > ON

SYSTEM

DESCRIPTION: ...

LANGUAGE: ENGLISH

DATE DISPLAY FORMAT: YYYY/MM/DD

DATE & TIME SETUP: ...

CLIENT ACCESS: ON

NTP SETUP: OFF

SEND EMAIL SETUP: OFF

UNIT NAME: DVR

APPLY CLOSE

2. Select the proper TIME ZONE time.

PRIMARY SNTP SERVER: Pool.ntp.org

SECONDARY SNTP SERVER: Time.nist.gov

TIME ZONE: GMT +0:00 (Lisbon/London/Monaco)

CONNECTION MODE: TIME

CONNECTION PERIOD: 03:00 AM

OK CANCEL

Table2.3.1. GMT Time Zone

	State	Standard Time	Daylight-Saving Time
AL	Alabama	GMT-6	GMT-5
AK	Alaska	GMT-9	GMT-8
AK	Alaska (Aleutian Islands)	GMT-10	NA
AZ	Arizona	GMT-7	NA
AZ	Arizona (Navajo)	GMT-7	GMT-6

AR	Arkansas	GMT-6	GMT-5
CA	California	GMT-8	GMT-7
CO	Colorado	GMT-7	GMT-6
CT	Connecticut	GMT-5	GMT-4
DC	District of Columbia	GMT-5	GMT-4
DE	Delaware	GMT-5	GMT-4
FL	Florida	GMT-5	GMT-4
FL	Florida (W)	GMT-6	GMT-5
GA	Georgia	GMT-5	GMT-4
HI	Hawaii	GMT-10	NA
ID	Idaho (N)	GMT-8	GMT-7
ID	Idaho (S)	GMT-7	GMT-6
IL	Illinois	GMT-6	GMT-5
IN	Indiana	GMT-5	GMT-4
IN	Indiana (SW / NW)	GMT-6	GMT-5
IA	Iowa	GMT-6	GMT-5
KS	Kansas	GMT-6	GMT-5
KS	Kansas (W)	GMT-7	GMT-6
KY	Kentucky (E)	GMT-5	GMT-4
KY	Kentucky (W)	GMT-6	GMT-5
LA	Louisiana	GMT-6	GMT-5
ME	Maine	GMT-5	GMT-4
MD	Maryland	GMT-5	GMT-4
MA	Massachusetts	GMT-5	GMT-4
MI	Michigan	GMT-5	GMT-4
MI	Michigan (W)	GMT-6	GMT-5
MN	Minnesota	GMT-6	GMT-5
MS	Mississippi	GMT-6	GMT-5
MO	Missouri	GMT-6	GMT-5
MT	Montana	GMT-7	GMT-6
NE	Nebraska	GMT-6	GMT-5
NE	Nebraska (W)	GMT-7	GMT-6
NV	Nevada	GMT-8	GMT-7
NH	New Hampshire	GMT-5	GMT-4
NJ	New Jersey	GMT-5	GMT-4
NM	New Mexico	GMT-7	GMT-6
NY	New York	GMT-5	GMT-4
NC	North Carolina	GMT-5	GMT-4
ND	North Dakota	GMT-6	GMT-5
ND	North Dakota (W)	GMT-7	GMT-6

OH	Ohio	GMT-5	GMT-4
OK	Oklahoma	GMT-6	GMT-5
OR	Oregon	GMT-8	GMT-7
OR	Oregon (E)	GMT-7	GMT-6
PA	Pennsylvania	GMT-5	GMT-4
RI	Rhode Island	GMT-5	GMT-4
SC	South Carolina	GMT-5	GMT-4
SD	South Dakota (E)	GMT-6	GMT-5
SD	South Dakota (W)	GMT-7	GMT-6
TN	Tennessee (E)	GMT-5	GMT-4
TN	Tennessee (W)	GMT-6	GMT-5
TX	Texas	GMT-6	GMT-5
TX	Texas (W)	GMT-7	GMT-6
UT	Utah	GMT-7	GMT-6
VT	Vermont	GMT-5	GMT-4
VA	Virginia	GMT-5	GMT-4
WA	Washington	GMT-8	GMT-7
WV	West Virginia	GMT-5	GMT-4
WI	Wisconsin	GMT-6	GMT-5
WY	Wyoming	GMT-7	GMT-6



NOTE: If you want the unit to automatically synchronize the local time, the Time Zone must be properly set according to your local time zone.

3. Name, Function and Connection

3-1. Front Panel



DxxRS



DxxWRS

Figure 3.1.1. Front panel

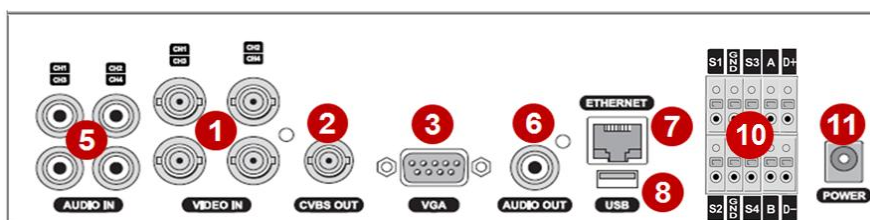
Table 3.1.1. Front LED and Port of DxxRS

Name	Description
POWER	LED light is on when power is applied to the system.
HDD	LED light is on when the system is recording video data.
USB Port	This USB port for archiving footage into a USB device. (USB 2.0 connector)

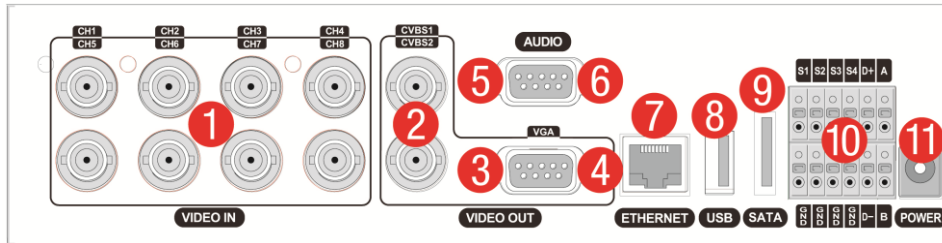
3-2. Connectors



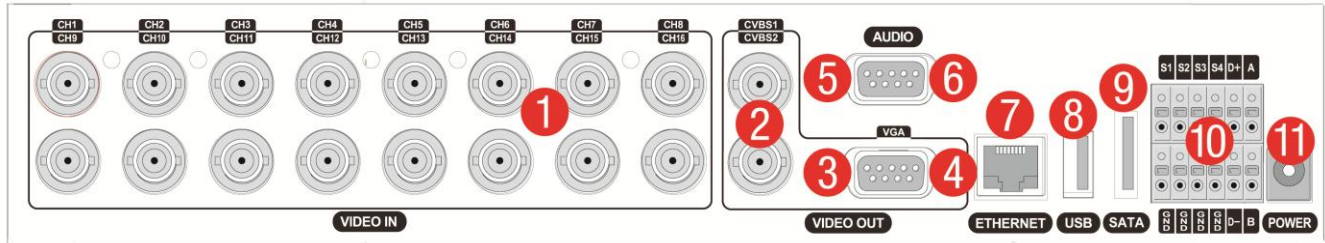
- Do not power this system on before all the connections are completed.
- Make sure all the connections are properly secured. Faulty connection may result in the system being damaged.



D4RS/D4WRS



D8RS/D8WRS

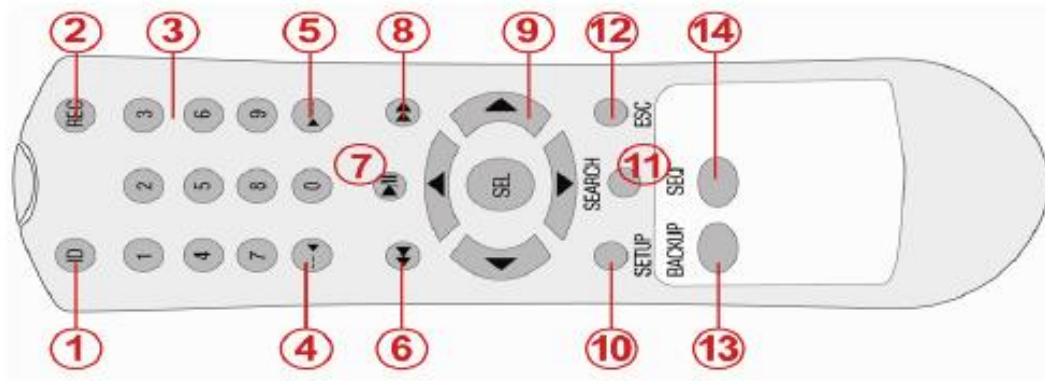


D16RS/D16WRS

Figure 3.2.1. Connectors

- ① VIDEO IN: Video input port.
- ② VIDEO OUT:
D4RS: Switchable (Composite Video Output or Spot Monitor)
D8RS, D16RS: CVBS1 – Composite Video Output / CVBS2 – Spot Monitor
- ③ VGA: VGA (Video Graphics Array) output port. Connects to the PC VGA monitor.
- ④ RS-232C (for D8RS/D16RS/D8WRS/D16WRS only): For engineering use only, the function is used by a gender through the VGA output.
- ⑤ AUDIO IN: Four connectors for audio input. D8RS/D16RS/D8WRS/D16WRS use an audio cable
- ⑥ AUDIO OUT: One connector for audio output. D8RS/D16RS/D8WRS/D16WRS use an audio cable.
- ⑦ ETHERNET: Network terminal
- ⑧ USB: USB terminal
- ⑨ E-SATA: External SATA port for extension storage.
- ⑩ SENSOR IN, ALARM OUT, RS-485: External sensor terminal, External alarm out terminal & RS-485 for PTZ Camera control
- ⑪ POWER: DC12V input
- ⑫ Cooling fan

3-3. Remote Control



Typical Remote Control

- ① ID: To set the remote control ID.
- ② REC: To start and stop manual recording
- ③ 0~9: To select channel (1,2,3,..) or to enter a DVR ID number or use as number key.
- ④ F/REW:
 - During playback – To move the playback position 60seconds back.
 - During Pause – To move the playback position 1 frame back.
- ⑤ F/ADV:
 - During playback – To move the playback position 60seconds forward .
 - During Pause – To move the playback position moves 1 frame forward
- ⑥ REW: To rewind the recording.
- ⑦ PLAY/PAUSE: To play or to pause the recording in playback mode
- ⑧ FF: To fast forward the recording.
- ⑨ Direction buttons: To move menu items or select a channel.
- ⑩ SETUP: To open the SETUP menu.
- ⑪ SEARCH: To go to SEARCH menu.
- ⑫ ESC:
 - During setup – To return to the previous menu screen.
 - During Playback – To exit playback mode
 - System lock – To lock a system when pressing ESC button for 5 seconds.
 - System unlock – To unlock a system when pressing ESC button for 5 seconds.
- ⑬ BACKUP: To start a backup operations in live or playback mode
- ⑭ SEQ: To start auto sequencing the screen in full screen mode. (Toggle)

4. Setting up the DVR

The following sections detail the initial setup of the DVR.



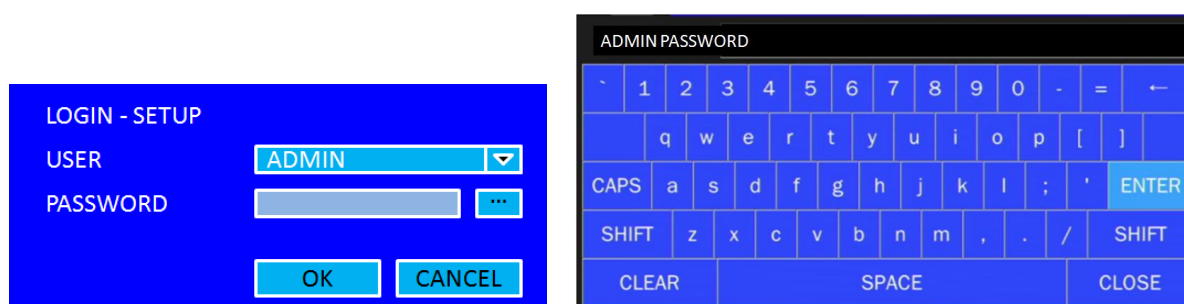
Menu screen will close if user input is not received in 5 minutes.

4-1. Setup – Main Live Screen

To enter the setup menu, right click on the mouse and select setup from the submenu or press the setup button on the remote control.



Table 4.1.1. Live Screen and Quick Operation Window



When the DVR prompts the LOG-IN window, enter the PASSWORD using the virtual keyboard, or the front panel, or the remote control. The factory default password is 1111. It is highly recommended to assign a new password to protect the system. User can assign a new password in SECURITY setup menu.

4-2. Setup – SYSTEM Mode

In the SETUP menu, select the SYSTEM tab. Then, the SYSTEM menu is displayed as pictured below. Navigate through the menu items using the mouse or the remote control and change the value of the menu item.



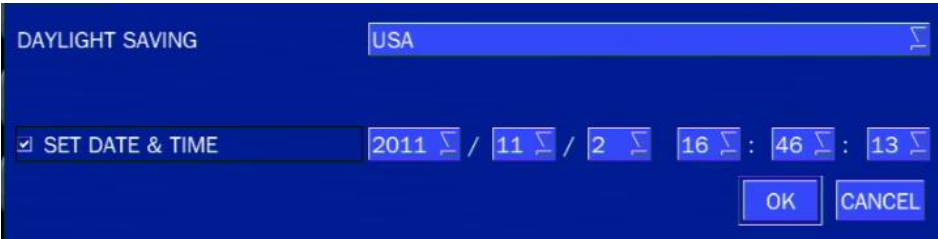
Figure 4.2.1. SYSTEM Setup Screen

Table 4.2.1. Menu Items in SYSTEM Setup Screen

Item	Description
DESCRIPTION	Press the button to view the system information. (Software Version, Storage Size, IP Address, MAC Address and DDNS Status)
<div> <div>SOFTWARE VERSION</div> <div>Ver 3.2.1 (07/11/2011)</div> <div>STORAGE SIZE</div> <div>217 GB</div> <div>IP ADDRESS</div> <div>172.16.20.30</div> <div>MAC ADDRESS</div> <div>00:02:69:00:00:01</div> <div>DDNS STATUS</div> <div>DDNS OFF</div> <div>OK</div> </div>	
LANGUAGE	Select the display language using the mouse or the control button on the remote control. Once a language is selected, the display language will change.

DATE DISPLAY FORMAT Select the date display format using the mouse or the control button on the remote control. Options are: MM/DD/YYYY, YYYY/MM/DD, DD/MM/YYYY, YYYY-MM-DD, MM-DD-YYYY, DD-MM-YYYY

DATE&TIME SETUP Select the display date and time using the mouse or the control button on the remote control and press OK button to set the present date and time.



Select DAYLIGHT SAVING using the mouse and the control button on the remote control and select the appropriate daylight saving time zone.

If choosing USA or OTHERS, set the applicable conditions. The options are:

OFF: Daylight saving is turned off.

USA: Applies the USA daylight saving time.

EU: Applies the EU daylight saving time.

- Select the GMT AREA using the mouse or the control button.
- Set the time difference with the standard time using the mouse or the control button.

OTHERS: If the time zone is neither USA nor EU, set the start and end date of the daylight saving period.

- Select BEGIN or END using the control button and press the SEL button.
- Select the item using the mouse or the control button, select the setting value using the control button and press the ESC button to return to SET DATE & TIME setup menu.



Caution

- Do not set the start time to 23:00 for DLS.
- DLS cannot be applied if the date of BEGIN and END is the same.

CLIENT ACCESS Enable/Disable remote access through the network.

NTP SETUP NTP (Network Time Protocol) which synchronizes the time of the computer systems over variable-latency data networks.



PRIMARY SNTP SERVER: Input the address of the primary NTP time-server.

SECONDARY SNTP SERVER: Input the address of the secondary NTP time-server.

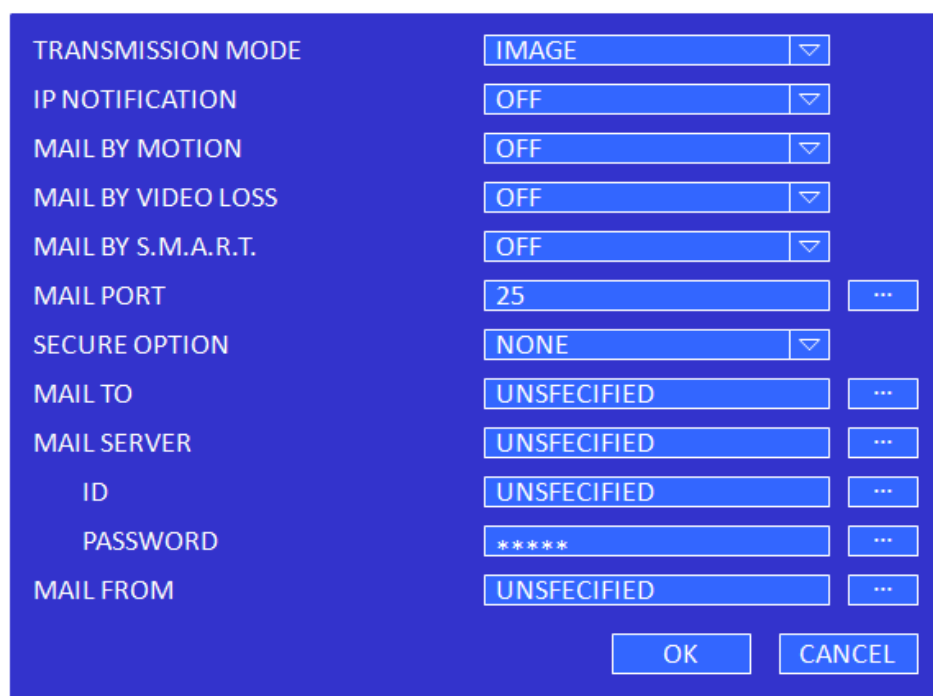
TIME ZONE: NTP synchronizes with GMT (Greenwich Mean Time) regardless of geography, user must set their own time difference.

CONNECTON MODE: Select the NTP time-server connection mode from TIME, INTERVAL, and ONCE.

CONNECTION PERIOD

- TIME – Refresh the time at the designated time (e.g. 1AM)
- INTERVAL – Every 1 hour ~ 24 hours
- ONCE – Synchronizes time only once. NTP will not synchronize unless the Connection Mode is changed.

SEND EMAIL



TRANSMISSION MODE	IMAGE	▼
IP NOTIFICATION	OFF	▼
MAIL BY MOTION	OFF	▼
MAIL BY VIDEO LOSS	OFF	▼
MAIL BY S.M.A.R.T.	OFF	▼
MAIL PORT	25	...
SECURE OPTION	NONE	▼
MAIL TO	UNSPECIFIED	...
MAIL SERVER	UNSPECIFIED	...
ID	UNSPECIFIED	...
PASSWORD	*****	...
MAIL FROM	UNSPECIFIED	...

OK CANCEL

TRANSMISSION MODE: Sending an image of an event channel.

IP NOTIFICATION: Enable/disable sending e-mail when the IP address is changed.

MAIL BY MOTION: Enable/disable sending e-mail when the motion is detected.

MAIL BY SENSOR: Enable/disable sending e-mail when sensor input is received (Only applies to D8RS, D16RS models)

MAIL BY VIDEO LOSS: Enable/disable sending e-mail when the video loss is detected.

MAIL BY S.M.A.R.T.: Enable/disable sending e-mail when S.M.A.R.T. is triggered.

MAIL PORT: Assign Mail Port number.

SEURE OPTION: Select the secure mail server connection method. **(SSL or TLS)**

MAIL TO: Enter the appropriate email address to enable sending e-mail reports using a virtual keyboard.

MAIL SERVER: Enter the appropriate mail server information.

ID: Enter the appropriate mail server ID.

PASSWORD: Enter the appropriate mail server PASSWORD.

MAIL FROM: To set the email address sent to the destination host.

UNIT NAME

Name the DVR (e.g. Factory)

This feature is to identify the name of the DVR under the same network.

4-3. Setup – RECORD Mode

In the SETUP menu, select the RECORD tab. Then, the RECORD menu is displayed as pictured below. Navigate through the menu items using the mouse or the control button on the remote control and change the value of the menu item.



Figure 4.3.1. RECORD Setup Screen


Table 4.3.1. Menu Items in RECORD Setup Screen

Menu Item

Description

SITE

Select a channel for applying the following settings using the mouse or the control button on the remote control. To change the values of all channels, take the following steps.

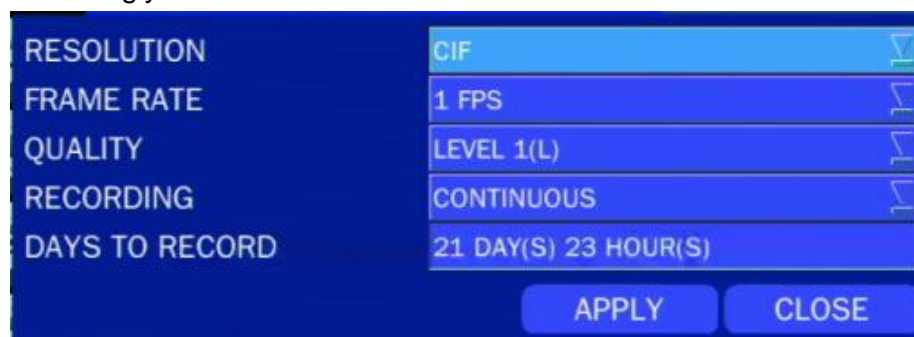
Select the following  to change the values of all channels.

	ALL	1	2	3	4
RESOLUTION	D1	D1	CIF	D1	HALF D1
FRAME RATE	20	20	30	20	30
QUALITY	LEVEL 4	LEVEL 4	LEVEL 5(H)	LEVEL 4	LEVEL 5(H)
RECORDING	MOTION	MOTION	CONTINUOUS	MOTION	SCHEDULE
PRE RECORD	15 SECON...	15 SECON...	15 SECON...	15 SECON...	15 SECON...
POST EVENT REC	19 SECON...	19 SECON...	19 SECON...	19 SECON...	19 SECON...
AUDIO	OFF	OFF	OFF	OFF	OFF

OK

CANCEL

RESOLUTION	Select D1, Half D1 or CIF using the mouse or the control button on the remote control.
FRAME RATE	Set the frame rate for the specified channel. The sum of the frame rate values from each channel cannot exceed the maximum frame rates for a specific recording resolution.
QUALITY	Select the recording quality for the selected channel. Options are; Level 1 (Low), Level 2, Level 3, Level 4, and Level 5 (High)
RECORDING MODE	Assign the recording mode for the selected channel. Options are: Continuous, Motion, Schedule or Disable.
SENSOR RECORDING	Select the sensor setting for the selected channel.
PRE RECORD	Enable/disable pre-event recording. Pre-event recording time is up to 20 minutes.
POST EVENT RECORD	Set the post event recording time duration for the specified channel. (10~30 seconds)
AUDIO	Enable/disable audio recording for the specified channel.
SCHEDULE	Set the recording schedule.
EZRECORD	Set the recording by EZRecord feature. The EZRECORD has high priority than other setting values on RECORD. User can change the setting value such as resolution, frame rate, quality and recording type. By the setting value, the DAYS TO RECORD will change accordingly.

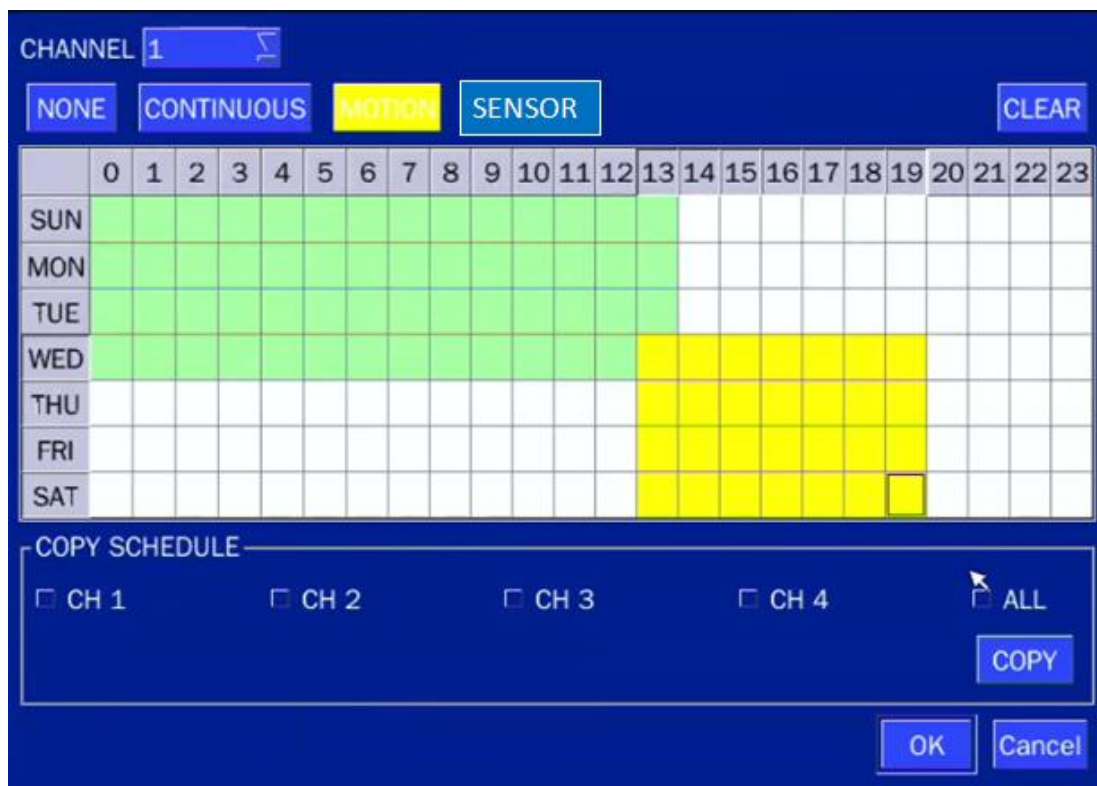


4-3-1. Recording Schedules

To setup a recording schedule, select SCHEDULE in the RECORD menu. Navigate through the items using the mouse or the control button.

Select CHANNEL > select NONE, CONTINUOUS or MOTION > HIGHLIGHT AREA

To copy a schedule to a different channel, select the channel from the COPY SCHEDULE menu.



The screenshot shows the 'Schedule Recording Setup Screen'. At the top, 'CHANNEL 1' is selected. Below it are four buttons: 'NONE', 'CONTINUOUS', 'MOTION' (highlighted in yellow), and 'SENSOR'. A 'CLEAR' button is on the right. The main area is a 7x24 grid representing days of the week (SUN to SAT) and hours (0 to 23). The grid shows a green highlight for 'CONTINUOUS' recording from 00:00 to 12:00 on Sunday through Tuesday, and a yellow highlight for 'MOTION' recording from 13:00 to 19:00 on Wednesday through Saturday. Below the grid is a 'COPY SCHEDULE' section with checkboxes for 'CH 1', 'CH 2', 'CH 3', 'CH 4', and 'ALL'. A 'COPY' button is to the right of these checkboxes. At the bottom right are 'OK' and 'Cancel' buttons.

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
SUN	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green										
MON	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green										
TUE	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green										
WED														Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow				
THU														Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow				
FRI														Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow				
SAT														Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow				

Figure 4.3.2. Schedule Recording Setup Screen

NONE: Disable recording

CONTINUE: CONTINUOUS recording (Highlighted in Green)

MOTION: MOTION recording (Highlighted in Yellow)

SENSOR: SENSOR recording (Highlighted in Red)

4-4. Setup – DEVICE Mode

In the SETUP menu, select the DEVICE tab. Then, the device menu is displayed as pictured below. Navigate through the menu items using the mouse or the control button on the remote control and change the value of the menu item.



Figure 4.4.1. DEVICE Setup Screen

Table 4.4.1. Menu Items in DEVICE Setup Screen

Item	Description
ALARM OUT	Set the sensor, motion, and video loss for triggering alarm relay HDD Error and Video Loss can trigger beeping.
CONTROLLER & PTZ	Set the PTZ baud rate, protocol, and ID.
SPOT-OUT	D4RS/D4WRS: CVBS OUT is switchable as Composite Video Output or Spot-Out according to the resolution of VIDEO OUTPUT (VGA). D8RS/D16RS/D8WRS/D16WRS: CVBS1 – Composite Video Output / CVBS2 – Spot-Out.
SITE	Select specified channel for motion zone setup.
MOTION ZONE	Select either Full Zone or Partial Zone for motion detection.
MOTION SENSITIVITY	Set the motion sensitivity for the selected channel. Control the motion sensitivity from 1 to 9.

	(9 – Highest sensitivity, 1 – Lowest sensitivity)
KEY TONE	Enable/disable key tone.
REMOTE CONTROL ID	Set the remote control ID. 1. Select ID. 2. Input the remote control ID number. 3. An icon will indicate on the Live Screen if the remote control ID is synchronized. The options are from 0 to 99
SENSOR	Select the type of each sensor. Option is Off, Normal Open or Normal Close.

4-4-1. Alarm-Out

Figure 4.4.2. ALARM-OUT Setup Screen

Table 4.4.2. Item for ALARM-OUT Setup Screen

Item	Description
ALARM OUT	Only one Alarm-out is available.
SENSOR IN	Sensor input from 1 to 4.
MOTION ON	Camera motion detection from 1 to 4.
VIDEO LOSS ON	Camera video loss detection from 1 to 4.
ALARM DURATION	Set alarm dwell time from 5 to 60 seconds.
ERROR ALARM	Set the error type for the alarm activation. The options are OFF, ALL, HDD ERROR and VIDEO LOSS.

4-4-2. Keyboard Controller & PTZ Setup

To control the PTZ functions of the camera, connect the PTZ controller to the RS-485 port on the back of the chassis with CAT5 (or equivalent) cable.

- ① Connect the RS-485 cables of PTZ camera to the RS-485 port on the rear panel.

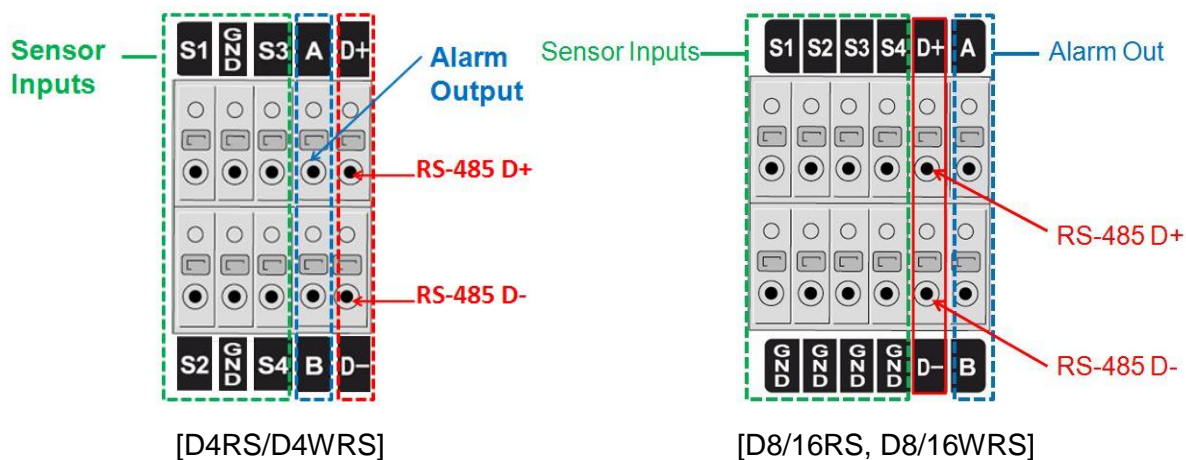


Figure 4.4.3. Device Mode Setup Screen

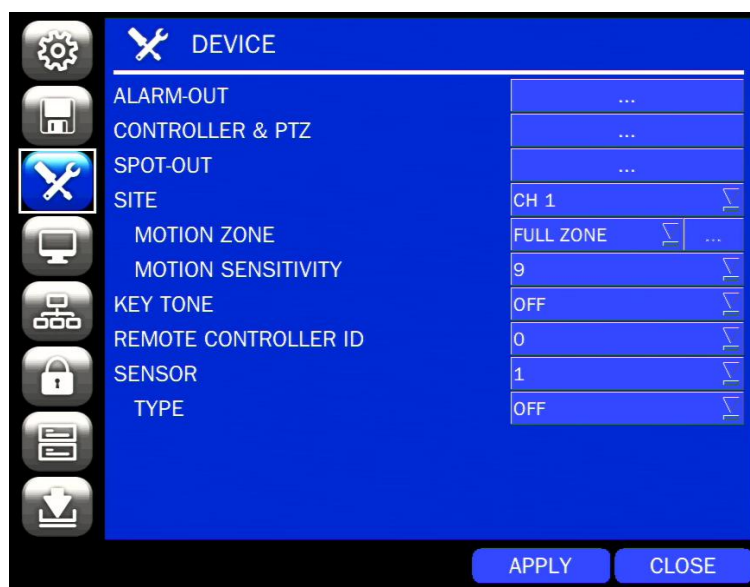


Figure 4.4.4. Device Mode Setup Screen

- ② Open the PTZ sub menu by selecting the submenu button.

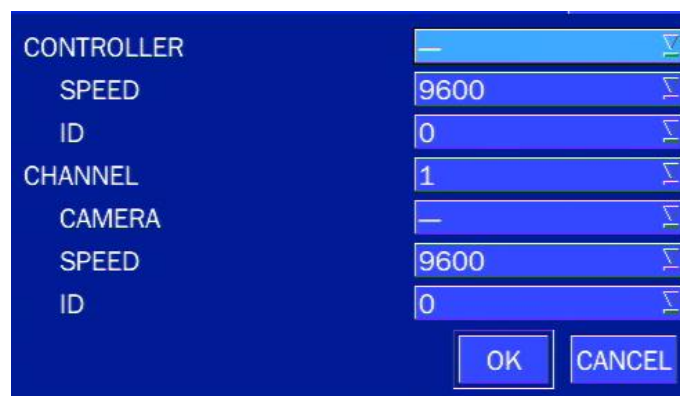


Figure 4.4.5. PTZ Control Setup Screen

Note: Connect PTZ cameras that support RS-485 directly to the RS-485 port. If the camera is controlled through an RS-232C interface, use an RS-232C to RS-485 to RS-232C signal converter.

Use the PTZ setup screen to select the following options for the camera PTZ controller:

- **CHANNEL:** Channel connected to a PTZ device
- **CAMERA:** Protocol Type
- **SPEED:** 19200, 14400, 9600, 4800, 2400 (Baud rate)
- **ID:** 0-63

Controller (Keyboard Controller): If a PTZ controller is used, select a controller protocol from Controller menu. Set SPEED (Baud Rate) and ID number.

4-4-3. Spot Out

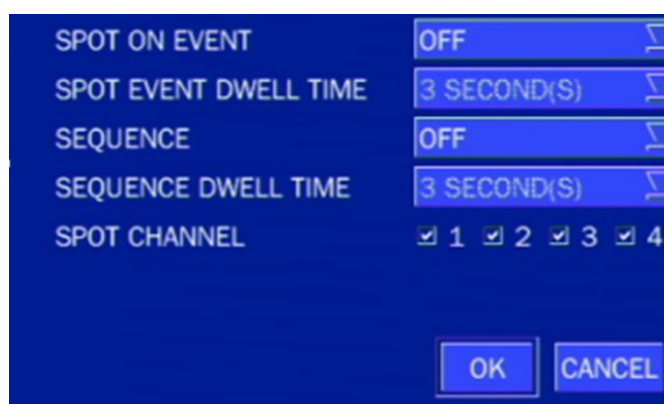


Figure 4.4.6. SPOT-OUT Setup Screen

Table 4.4.4. Menu Item in SPOT-OUT Setup Screen

Item	Description
SPOT OUT	Only 1 Spot Out is available to use. To use the Spot out function on D4RS, Video Resolution has to be setup as 1280x1024 (Video Resolution Output can be setup on DISPLAY MENU.)
SPOT TYPE	SPOT 1 supports only FULL type. (1 channel only)
SPOT ON EVENT	Enable/disable channel change if an event occurs on a channel.
SPOT EVENT DWELL TIME	Set the dwell time for the display of the event activated channel. (1-10sec)
SEQUENCE	Enable/disable sequential display of spot channel in full screen. If select ON, the selected channel will be displayed on the monitor periodically.
SEQUENCE DWELL TIME	Set the dwell time for the spot channel display.(1-10sec)
SPOT CHANNEL	Select a channel for spot monitoring using the mouse or the control button on the remote control and press OK button.

4-4-4. Motion Zone Setup

Select MOTION ZONE using the mouse or the control button on the remote control and select either PARTIAL ZONE or FULL ZONE using the mouse control. The default value is FULL ZONE.

If FULL ZONE is selected, the motion zone grid screen is not displayed. Only set the level of sensitivity for MOTION SENSITIVITY.

FULL ZONE: The motion sensor is active on the whole screen.

PARTIAL ZONE: The motion sensor is active in the set detection frame.

Select the motion detection position using the mouse or the control button on the remote control. Then left click on the mouse or left click and drag the mouse pointer to select or deselect the area. Highlighted area indicates the partial motion detection zone. Press the ESC button or right click on the mouse to return to the previous menu.

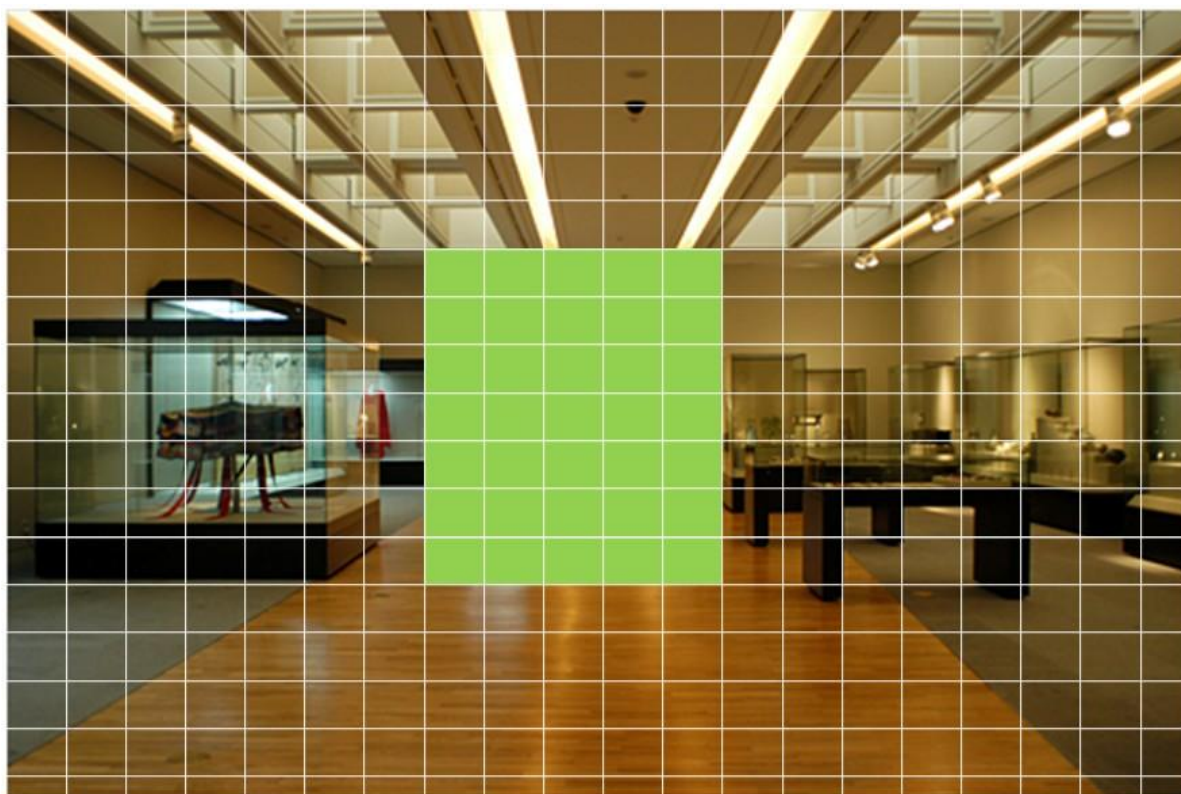


Figure 4.4.7. Motion Zone Grid Screen

4-5. Setup – DISPLAY Mode

In the SETUP menu, select the DISPLAY tab. Then, the DISPLAY menu is displayed as pictured below. Navigate through the menu items using the mouse or the control button on the remote control and change the value of the menu item. To return to the previous setup menu screen, press the ESC button.

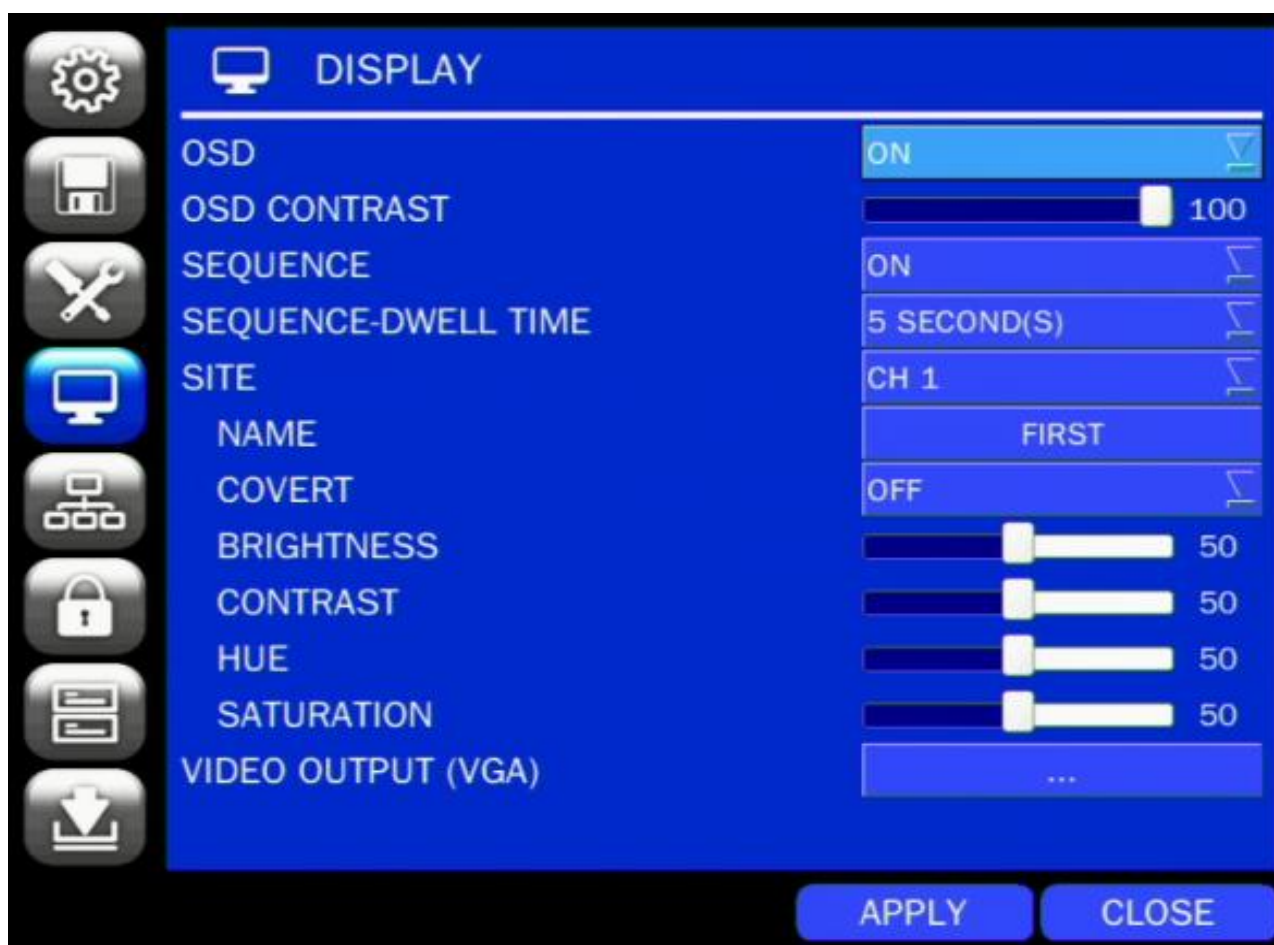


Figure 4.5.1. DISPLAY Setup Screen

Table 4.5.1. Menu Items in DISPLAY Setup Screen

Item	Description
OSD	Enable/disable on-screen-display.
OSD CONTRAST	Set the visibility level of the On Screen Display (OSD) (0~100)
SEQUENCE	Enable/disable sequential display of video in full screen mode.
SEQUENCE DWELL TIME	Set the dwell time of each, single channel display in sequential display mode (3~60seconds)
SITE	Select a channel to apply the name and covert settings change using the mouse or control button on the remote control. Select a channel to apply the following settings using the mouse.
NAME	Set the channel name. Press the right square button and set the channel name and select OK using the mouse. The name can be made up to 36 characters.
COVERT	Enable/disable display of the specified video channel in live display.

VIDEO OUTPUT (VGA)



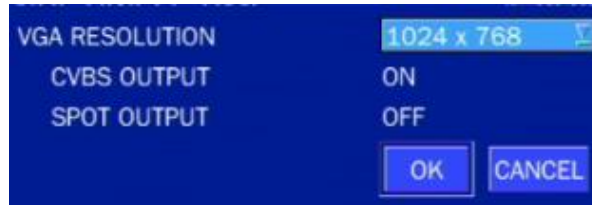
D4RS/D4WRS

When VGA RESOLUTION is set at 1024 x 768,

- CVBS OUTPUT(Simultaneous Video Output): ON
- SPOT OUTPUT: OFF

When VGA RESOLUTION is set as 1280 x1024,

- CVBS OUTPUT(Simultaneous Video Output): OFF
- SPOT OUTPUT: ON



D8RS/D16RS/D8WRS/D16WRS

CVBS1: Composite Video Output

CVBS2: Spot-Out port

4-6. Setup – NETWORK Mode

Select the NETWORK tab. Then, the network menu is displayed as pictured below. Navigate through the menu items using the mouse or the control button on the remote control and change the value of the menu.

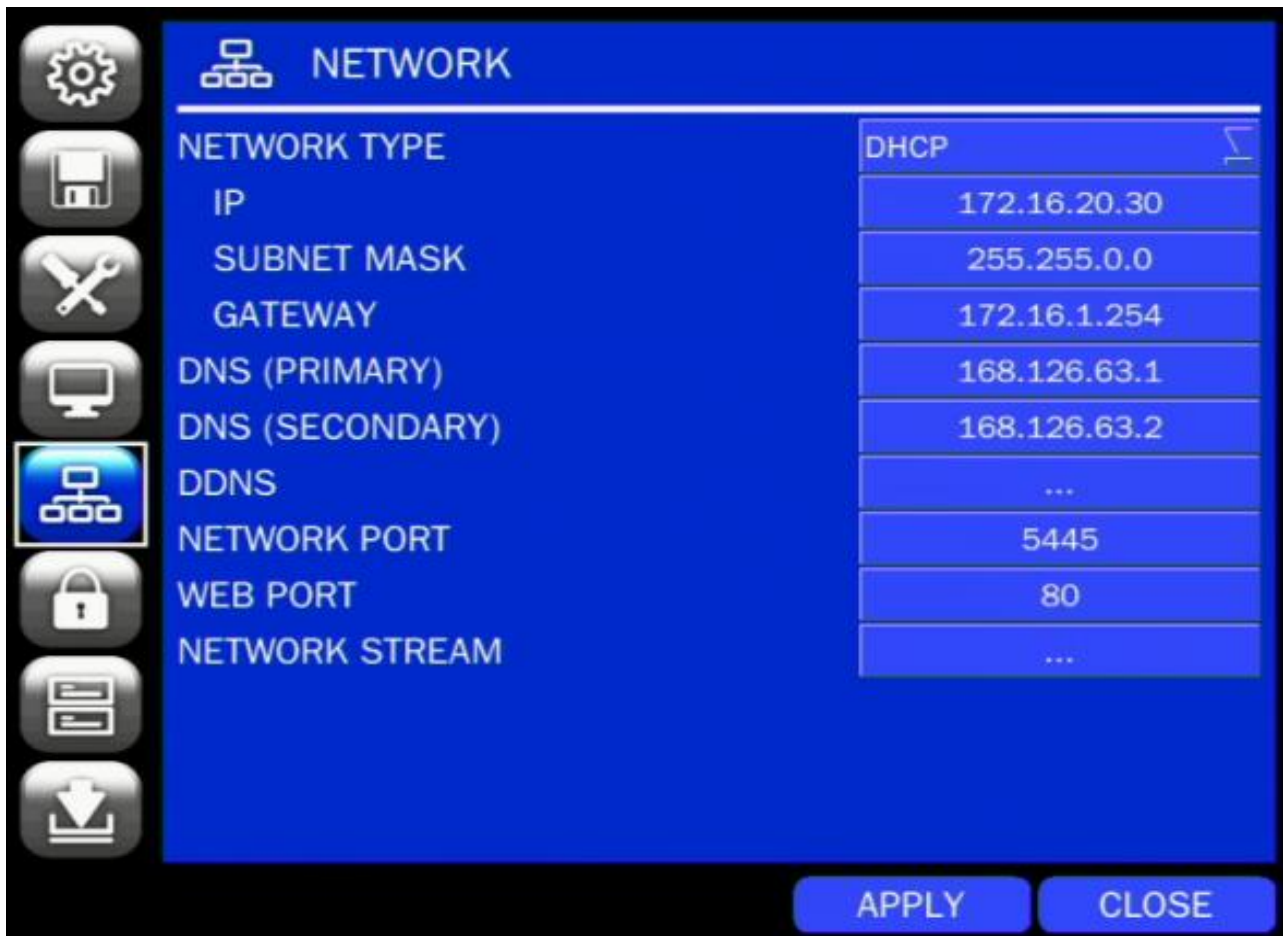


Figure 4.6.1. NETWORK Setup Screen

Table 4.6.1. Menu Items in NETWORK Setup Screen

Item	Description
NETWORK TYPE	DHCP: DVR will automatically retrieve an IP address. STATIC: Network information must be manually configured.
IP	Enter IP address that is assigned for the DVR
SUBNET MASK	Enter Subnet Mask that is assigned for the DVR
GATEWAY	Enter Gateway that is assigned for the DVR.
DNS (PRIMARY)	Enter Primary DNS address that is assigned for the DVR
DNS (SECONDARY)	Enter Secondary DNS address that is assigned for the DVR
DDNS	Dynamic Domain Name System (DDNS) allows a DNS name to be constantly synchronized with a dynamic IP address. In other words, it allows using a dynamic IP address to be associated with a static domain name so others can connect to it by the static name. Enable/disable using domain name address through DDNS server.
NETWORK PORT	Enter the port number.
WEB PORT	Enter the port number for connection using web.
NETWORK STREAM	Set the value for network streaming.

4-6-1. Network Types

4-6-1-1. DHCP

An IP address is automatically assigned by the DHCP server, which automatically assigns the IP address and other parameters to new devices.

4-6-1-2. STATIC

IP address, Subnet Mask, Gateway, and DNS are manually assigned by the user.

- IP ADDRESS: The fixed IP address of the DVR unit.
- SUBNET MASK: The subnet mask for the LAN.
- GATEWAY: The IP address of the Gateway.
- DNS (PRIMARY) The primary address of Domain Name Server
- DNS (SECINDARY): The secondary address of Domain Name Server



NOTE

Unless DNS is properly set, the DDNS and the e-mail features will not work.

4-6-2. DDNS

DDNS (Dynamic Domain Name System) allows a DNS name to be constantly synchronized with a dynamic IP address. It allows using a dynamic IP address to be associated with a static domain name.

Once the setting is completed, the DDNS address will be:

<http://hostname.ddns.specoddns.net>

For example, if you enter the host name as “D4RS”, then the address will be:

<http://d4rs.ddns.specoddns.net>

Select NETWORK>DDNS. The menu displays as below.



Figure 4.6.3. NETWORK Setup Screen – DDNS

Table 4.6.2. DDNS

Item	Description
ENABLE DDNS	Enable/disable the Dynamic Domain Name Service.
HOST NAME	This item allows the user to setup a domain name manually, using virtual keyboard displays as shown.
SUBMIT/UPDATE	When manual host name input is done, move the cursor to this item and select ON to submit the settings.
ezDDNS	Enable/disable ezDDNS to register the host name automatically.

4-6-3. Network Port and Web Port

Connecting DVR/DVRs through an IP sharing device, each DVR must be assigned a unique TCP port number for access from outside the LAN. This port number is displayed on NETWORK>NETWORK PORT Setup MENU.



NOTE

If you access the DVR only within the same LAN, the TCP port number does not need to be changed.

Network access beyond a router

To access DVR beyond a router (firewall), you must open the proper TCP ports for live/playback streaming, for commands, for remote backup, and for audio streaming. If these ports are not opened properly, you can not access the DVR beyond a router.



- For live/playback streaming, for commands, for remote backup: Open the port number on NETWORK>NETWORK PORT menu. The default port number is 5445.
- For bi-directional audio: Open the port number (NETWORK PORT number + 1). If the NETWORK PORT is 5445, open 5446 TCP port.
- For web-viewer downloading and remote firmware upgrading: Open the port number on NETWORK>WEB PORT menu. The default port number is 80.

4-6-4. Network Stream

User can set the RESOLUTION, FRAME RATE, and the QUALITY for the network stream.

- D4RS: Up to 60 fps @CIF for 4 channels.
- D8RS, D16RS: Up to 120 fps @CIF for 8 channels & 16 channels.

<Note> Individual Channels can be set with different RESOLUTION, FRAME RATE, and QUALITY.

	ALL	1	2	3	4
RESOLUTION	CIF	CIF	CIF	CIF	CIF
FRAME RATE	10	10	10	10	10
QUALITY	LEVEL 5(H)	LEVEL 5(H)	LEVEL 5(H)	LEVEL 5(H)	LEVEL 5(H)

OK CANCEL

Figure 4.6.4. NETWORK Setup Screen – Network Stream

4-7. Setup – USER MANAGEMENT Mode

In the SETUP menu, select the USER MANAGEMENT tab. Then, the USER MANAGEMENT menu is displayed as pictured below. Navigate through the menu items using the mouse or the control button on the remote control and change the value of the menu item.

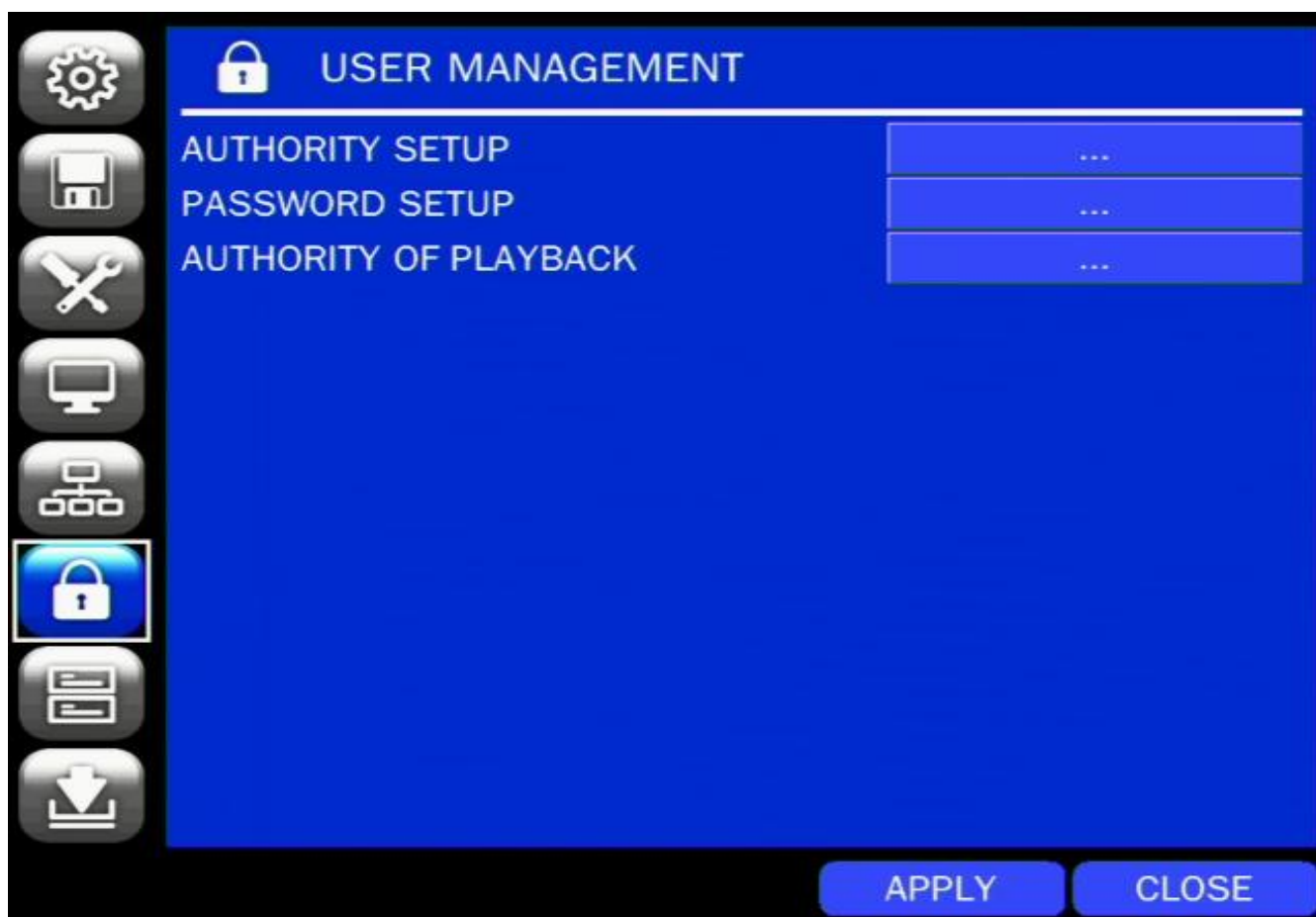




Figure 4.7.1. USER MANAGEMENT Setup Screen

Table 4.7.1. Menu Items in USER MANAGEMENT Setup Screen

Item	Description
AUTHORITY SETUP	<p>Only the Admin will have access to the menu.</p> <p>PASSWORD CHECK: Select the Checkbox to enable the functions or leave the Checkbox blank to disable the functions.</p> <ul style="list-style-type: none"> • SETUP: Enable/Disable of access to Setup • PB: Enable/Disable of access to Playback • PTZ: Enable/Disable of access to PTZ Control • R/OFF: Enable/Disable of manual Record • NETWORK: Enable/Disable of access to Network <p>Selected Checkbox: The DVR will ask for a password when the given function is selected for all users.</p> <p>Blank Checkbox: The DVR will not ask for a password when the given function is selected for all users.</p>
	 <p>ADMIN, USER1, USER2, USER3:</p> <p>Selected Checkbox: The user can access the function.</p> <p>Blank Checkbox: The user can not access the function.</p>
PASSWORD SETUP	<p>Options are ADMIN, USER1, USER2 and USER3.</p> <p>Select USER PASSWORD using the mouse or the control button on the remote control and press SEL button. Select user type and enter the current password. And, enter a new password, enter the same password again to confirm and select OK. Then the message "PASSWORD CHANGED" is displayed.</p> <p>The factory default password is 1111.</p> <p>It is highly recommended to assign a new password to protect the system.</p>
	
AUTHORITY OF PLAYBACK	<p>Set authority level of playback on each user.</p> <p>Checked box: authorized to playback. Blank check box: no authority.</p>

	1	2	3	4
ADMIN	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
USER1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
USER2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
USER3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

OK CANCEL

4-8. Setup – STORAGE Mode

In the SETUP menu, select the STORAGE tab. Then, the STORAGE menu is displayed as pictured below. Navigate through the menu items using the mouse or the control button on the remote control and change the value of the menu item.

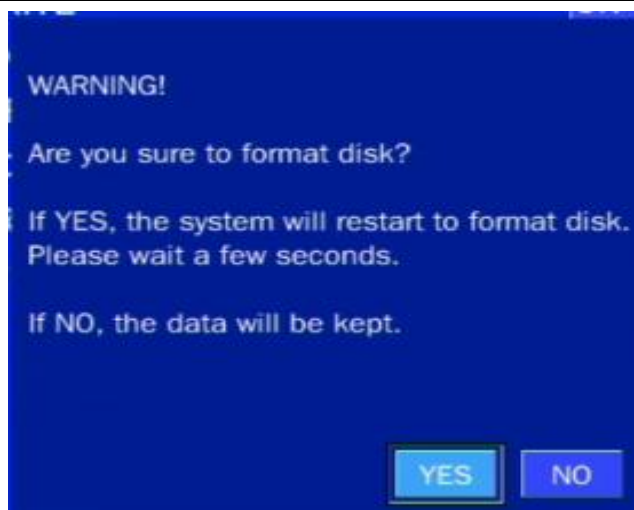


Figure 4.8.1. STORAGE Setup Screen

Table 4.8.1. Menu Items in STORAGE Setup Screen

Item	Description
OVERWRITE	When enabled, the DVR will continue recording and overwrite the oldest existing recorded data once the hard drive is full. When disabled, recording will stop once the hard drive is full.
DISK FORMAT	You will have an option of YES or NO for formatting the Hard Drive. After formatting HDD, the DVR will reboot. Caution: It is recommended to archive any data that you may need in the future before formatting the hard drive.





DISK INFO

Hard drive information.

Displays the following information;

HDD SIZE : 435 GB (FREE : 311 GB)				
HDD START TIME : 01-03-2004 01:05:00				
HDD LAST TIME : 07-12-2011 16:41:00				
	Model Name	Temperature	Power On Time	Health (Good/Normal/Bad)
HDD 1	HDD AAABBB1234567890	46 °C (114 °F)	117 days 23 hours	Good
				<input type="button" value="OK"/> <input type="button" value="DETAIL"/>

**RECORDING
LIMIT**

Enable/disable recording limit.

**RECORDING
LIMIT DAYS**

Set the recording limit days. (1- 90 days)

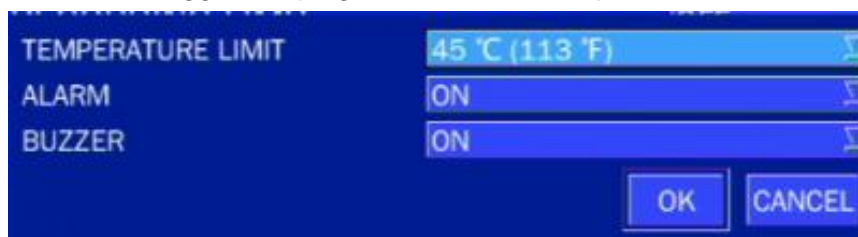
If the RECORDING LIMIT DAYS are set to 1, the data will be overwritten after 24 hours.

S.M.A.R.T

Set the alarm and beep by setting the HDD temperature limit.

Alarm will trigger alarm output.

Buzzer will trigger beeping from the internal speaker.



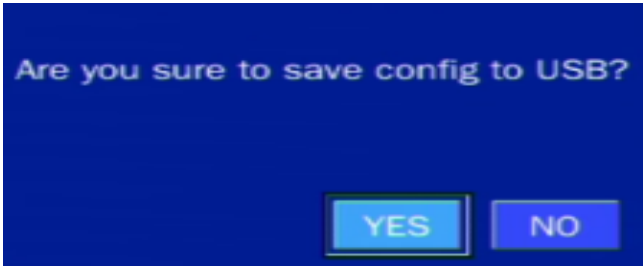
4-9. Setup - CONFIG Mode

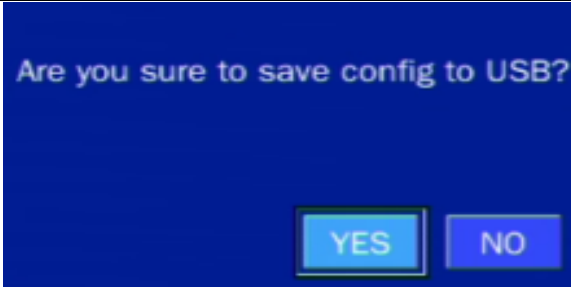
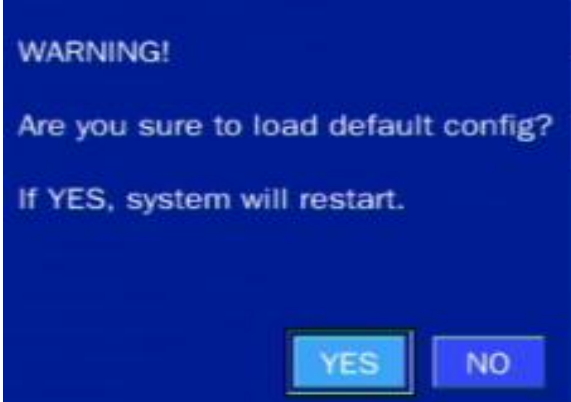
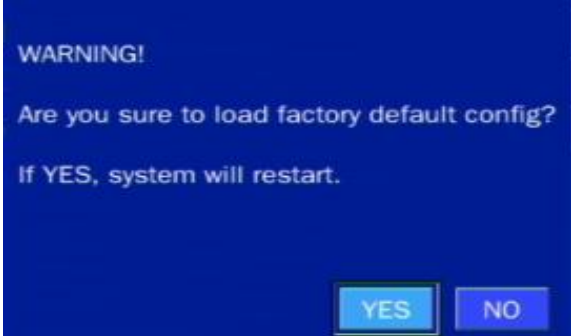
In the SETUP menu, select the CONFIG tab. Then, the configuration menu is displayed as pictured below. Navigate through the menu items using the mouse or the control button on the remote control and change the value of the menu item.



Figure 4.9.1. CONFIGURATION Setup Screen

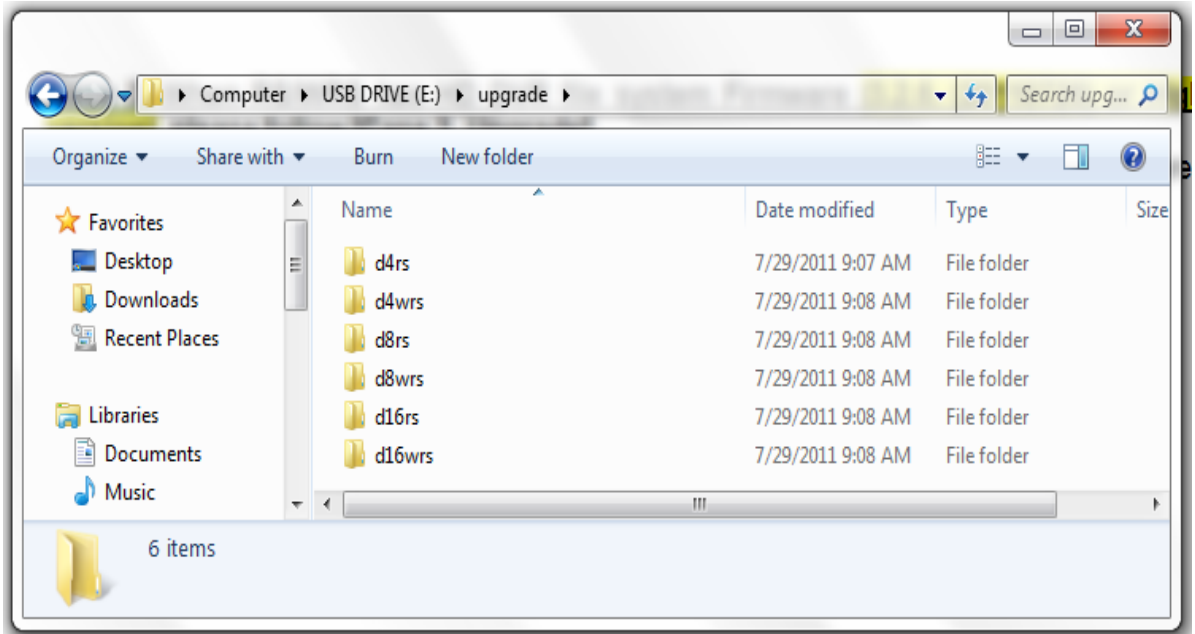
Table 4.9.1. CONFIGURATION Setup

Item	Description
EXPORT TO USB	User can save the current configuration (Setting values) of the DVR to the USB flash drive. Plug in the USB flash on the front panel and press the button to start the saving process. 
IMPORT FROM USB	User can upload the configuration of the DVR to another DVR using the USB Flash drive. Plug in the USB flash drive on the front panel and press the button to start the loading process.

	
LOAD DEFAULT	<p>Press the button to reset the system to the default settings.</p>  <p>The following settings such as Language, DVR ID, Security User Authentication, Security User P/W, Date format, DLS settings, Network settings, HDD overwrite, Limit recording, HDD serial number, and HDD ERROR time will not be included.</p>
LOAD FACTORY DEFAULT	<p>Press the button to reset the system to the factory default settings.</p> 
SOFTWARE UPGRADE	<p>Upgrade software to the latest version.</p> <p>After connecting USB flash drive to USB port on the DVR, click SEARCH.</p> <p>It will automatically find the upgrade file.</p>

4-9-1. Firmware Upgrade

1. Create a new folder named “upgrade” in the USB flash drive root directory.
2. Create sub-folder for each model under “upgrade” folder and copy each firmware.
 - D4RS: “main_D4RS_speco_*.*)_201****”
 - D8RS: “main_D8RS_speco_*.*)_201****”
 - D16RS: “main_D16RS_speco_*.*)_201****”
 - D4WRS: “main_D4WRS_speco_*.*)_201****”
 - D8WRS: “main_D8WRS_speco_*.*)_201****”
 - D16WRS: “main_D16WRS_speco_*.*)_201****”



3. Plug in the USB flash drive on the rear panel.
4. Navigate to CONFIG menu of SETUP.
5. Select SOFTWARE UPGRADE.
6. Follow the procedure from Figure 4.9.2 to Figure 4.9.4.

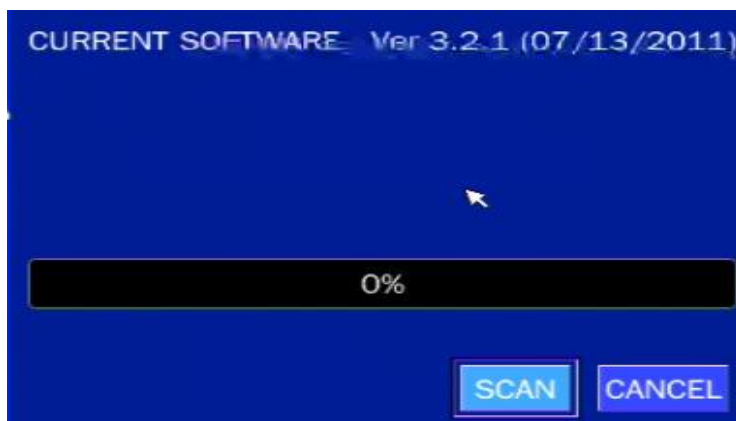


Figure 4.9.2

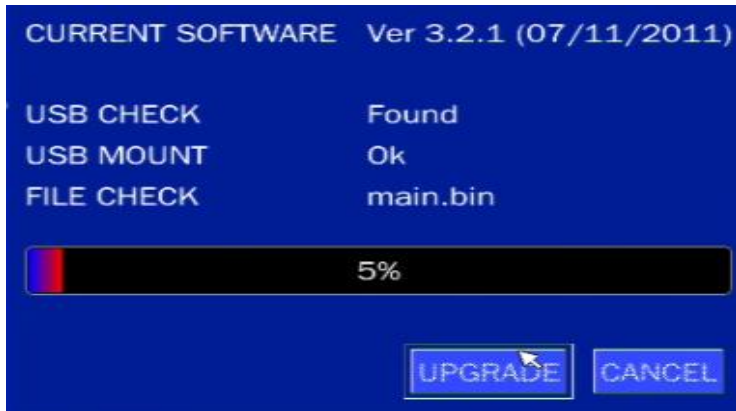


Figure 4.9.3

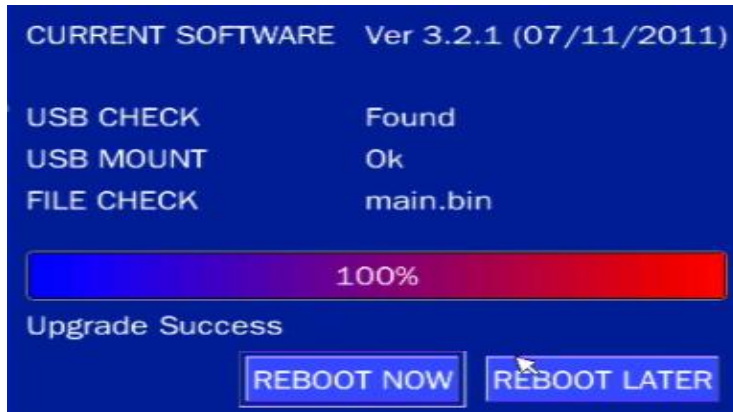
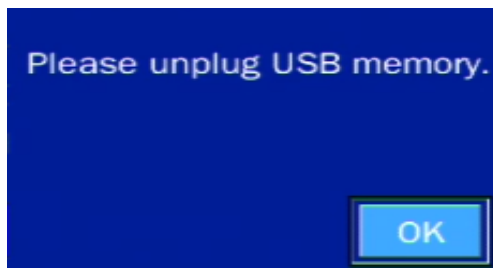


Figure 4.9.4

NOTICE



1. If selecting REBOOT LATER, the upgraded software will not be applied until the system reboots.
2. If selecting REBOOT NOW when the USB flash drive is plugged, the following message will pop up. Remove the USB flash drive and select OK.



5. Live, Search and Playback






5-1. Live View









In the Live screen, video inputs from the cameras are displayed as they are configured in the Display Setup screen. Various On-Screen Display (OSD) symbols, which indicate the status of the DVR, are described in Table 5.1.1.



Figure 5.1.1. Live Screen and Quick Operation Window

Table 5.1.1. Status Indicator Icons in Live Viewing Screen

Icon	Description
	Indicates the DVR is locked. Note) to unlock, right click on the live view screen and click on Unlock.
	Audio mute. To select audio output, press the Audio after click the right button on the mouse. Toggle from Audio 1 to 4, mute in order. .
	Indicates that alarm is set. To set the alarm function, press the Alarm button on the front panel.
	Indicates that alarm output is activated.
	Event indicator. When there is an event (motion recording, video loss, HDD fail, S.M.A.R.T), this icon will be highlighted.

	Indicates that a network client is connected to the DVR.
	Indicates that sequencing mode is enabled.
2009/04/14 17:23:40	Displays the current date and time.
RC: ALL	Remote control ID display. If a remote ID is not set, the message "ALL" is displayed.
 15%	Displays the amount of recording on the hard disk from 0-99%.
	Indicates that HDD is recycled.
	Continuous recording in progress.
	Manual recording in progress. To set the Manual recording mode, press the Record button on the front panel.
	Motion alarm recording in progress.
	Sensor recording in progress. (Only for D8RS and D16RS model.)

Right click the mouse, and the quick operation window will be displayed as below.

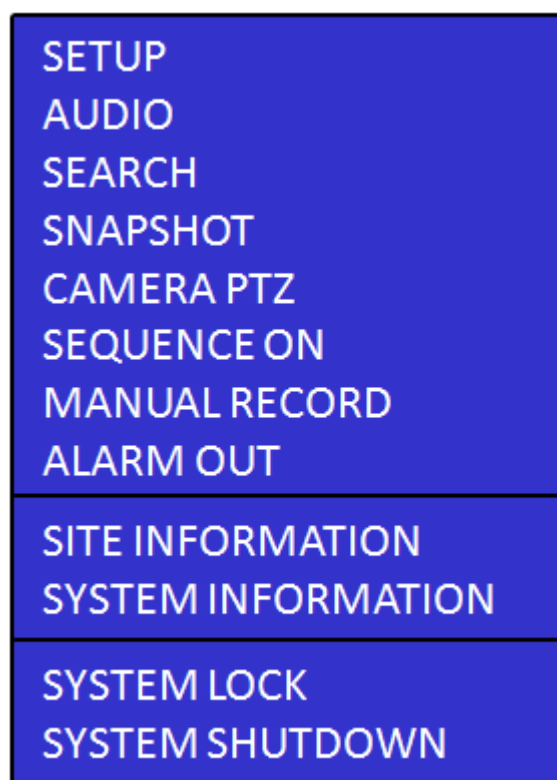



Figure 5.1.2. Quick Operation Window

Table 5.1.2. Menu Items in Quick Operation Window

Icon	Description
SETUP	Setup button. Click this button to go to a setup menu.
AUDIO	Audio button. Click this button to set an audio reception type; (Channel 1 through 4, Audio Mute).
SEARCH	Search button. Click this button to enter the search menu.
SNAPSHOT	Snapshot button. Click this button to create a snapshot. (JPEG STILL IMAGE)
CAMERA PTZ	Pop up the PTZ user interface.
SEQUENCE	Sequence button. Click this button to use a sequence function.
MANUAL RECORD	Manual Record button. Click this button to enable manual recording.
ALARM OUT	Click this button to enable/disable Alarm outputs
SITE INFORMATION	Press the button to view the record setting of a selected channel.
SYSTEM INFORMATION	Press the button to view the system information. <div data-bbox="405 884 1318 1373" data-label="Image"> <p>The screenshot shows a blue background with white text for system information. The parameters listed are: SOFTWARE VERSION (Ver 3.2.1 (07/11/2011)), STORAGE SIZE (217 GB), NETWORK TYPE (STATIC), IP ADDRESS (172.16.20.30), MAC ADDRESS (00:02:69:00:00:01), DDNS STATUS (DDNS OFF), UNIT NAME (SPECO RS4), and REMOTE CONTROLLER ID (0). An 'OK' button is visible in the bottom right corner.</p> </div>
SYSTEM LOCK	Lock/Unlock Setup button.
SYSTEM SHUTDOWN	Click this button to shutdown system.

5-1-1. PTZ Control

Table 5.1.3. Menu Items in PTZ Control Window

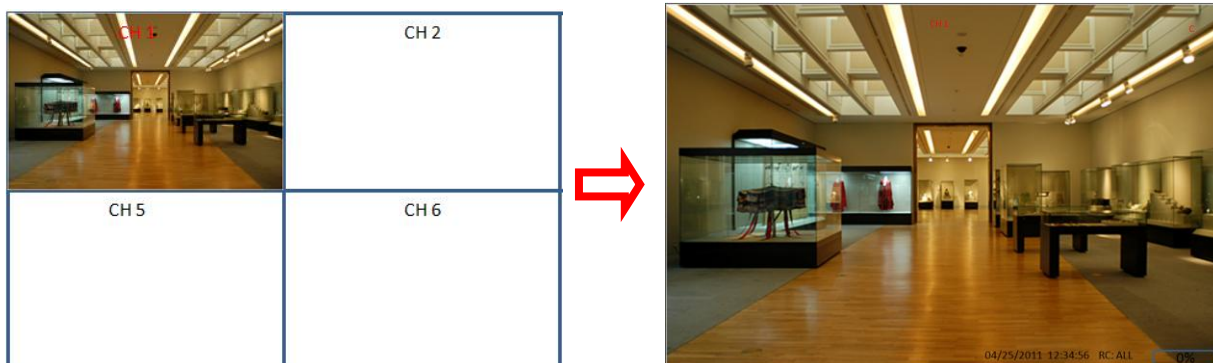
Item	Description
INITIALIZE	Initialize the PTZ settings of the selected camera
PAN/TILT	Select PAN/TILT using the ▲▼◀ and ▶ button, then press SEL . Adjust the tilt (UP/DOWN)/pan (LEFT/RIGHT) position using the ▲▼◀ and ▶ buttons.
ZOOM/FOCUS	Select ZOM/FOCUS using the ▲▼◀ and ▶ buttons, then press SEL . Adjust the zoom (UP/DOWN)/ focus (LEFT/RIGHT) position using the ▲▼◀ and ▶ buttons.
OSD	Select OSD to enter the menu. Control keys are Right, Left, UP, Down, Select, Far (REW KEY), and Near (FF KEY). Press the ESC button to return to the previous menu. Press the PTZ button to close the OSD menu.
AUTOSCAN	Press the right key (▶) to start auto scan. Press the left key (◀) to stop auto scan.
PRESET	Select PRESET, then press the left key (◀). A number input window will appear. Set the number (3digits) using the number key, then press the SEL to confirm the preset number for the current position. Press the right key (▶) and enter the number (3digits) to go to the preset position.
TOUR	Select TOU and press the right (▶) key. A number input window will open. Select a number (1digit) using a number key, then press SEL to start the tour. Press the left (◀) key to stop the tour. Preset the number of the tour group in the OSD menu.
NUMBER	For the TOUR and PRESET menu.
	Press ESC to return to the main menu



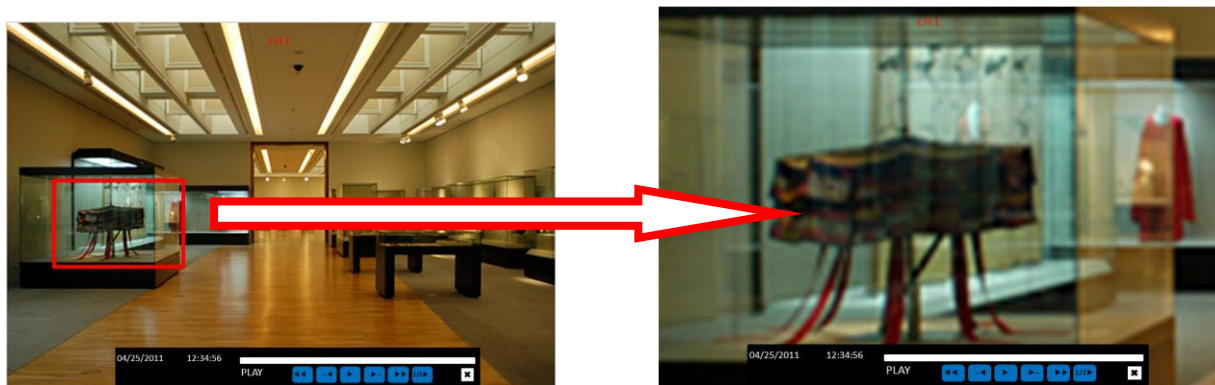
5-2. Digital Zoom in Live and Playback Screen

RS series supports Digital Zoom feature during live and playback mode.

1. Double click the target channel.



2. Click the left button of the mouse and drag to make rectangular shape.



5-3. SEARCH Screen

To enter the search screen menu, select SEARCH menu on the screen using the mouse or press SEARCH icon on live screen.

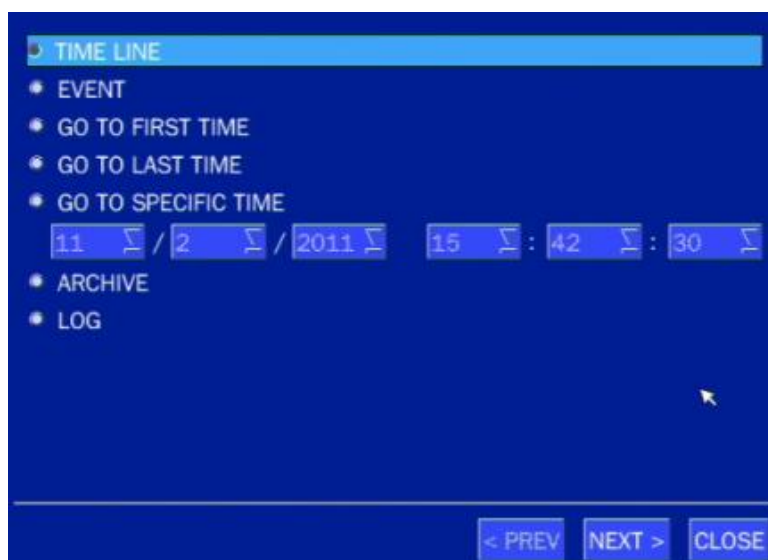


Figure 5.3.1. Search Screen

There are 7 ways of search menu such as TIME LINE (Calendar) SEARCH, EVENT, GO TO FIRST TIME, GO TO LAST TIME, GO TO SPECIFIC TIME, ARCHIVE LIST, and LOG LIST on the screen.

5-3-1. Time Line Search

The CALENDAR Search window is used to find the stored video by using the time line bar.



Figure 5.3.2. Calendar Screen

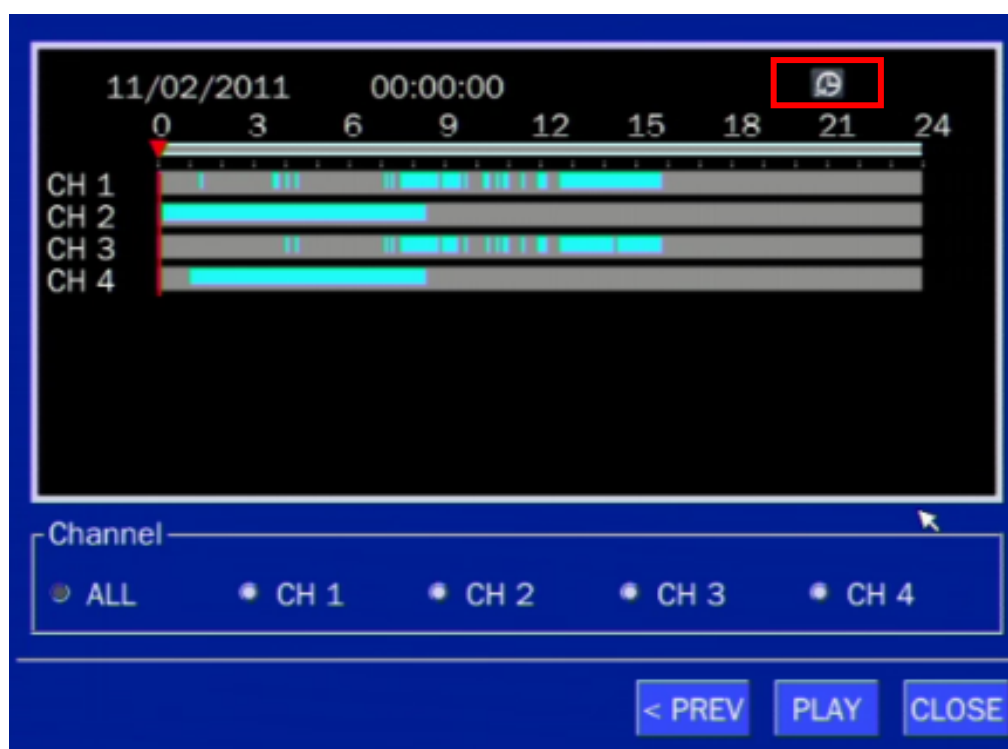


Figure 5.3.3. Time-Line Search Screen

When the Timeline menu is selected, the user can see a calendar, which displays recorded dates with highlights. Select a specific date and time. Click and drag the red time indicator bar to the desired hour. User can select a specific minutes using a button in the above red box. Press the PLAY button after selecting the specific time. Press the PREV to return to the SEARCH window.

5-3-2. Event Search

The Event Search window is used to find stored video.



Figure 5.3.4. Event Search Screen

When the Event menu is selected, the user can see a calendar, which has recorded data. Select a specific date and the event log will be displayed. Press the PLAY button to playback the data or the SAVE button to save the data after selecting the specific data. User can find a data of the specific channel and event using a button in the above red box as following Figure 5.2.5. Press the PREV to return to the SEARCH window.



Figure 5.3.5. Event Search Screen

5-3-3. Go To First Time

You can access from the oldest recorded data on the DVR hard drive by selecting GO TO FIRST TIME on the SEARCH window. Press the PREV to return to the SEARCH window.

5-3-4. Go To Last Time

You can access from the last minute recorded data on the DVR hard drive by selecting GO TO LAST TME on the SEARCH window. Press the PREV to return to the SEARCH window.

5-3-5. Go To Specific Time

User can search for video data from a specific instance by setting the date and time in the GO TO

SPECIFIC TIME menu. Use the mouse or the control button on the remote control to change the date and time value and press the PLAY button after setting. If there is no video data in the set date and time, No Data Exist message displays.

5-3-6. Archive List

The ARCHIVE Search window is used to find previously stored video or images.

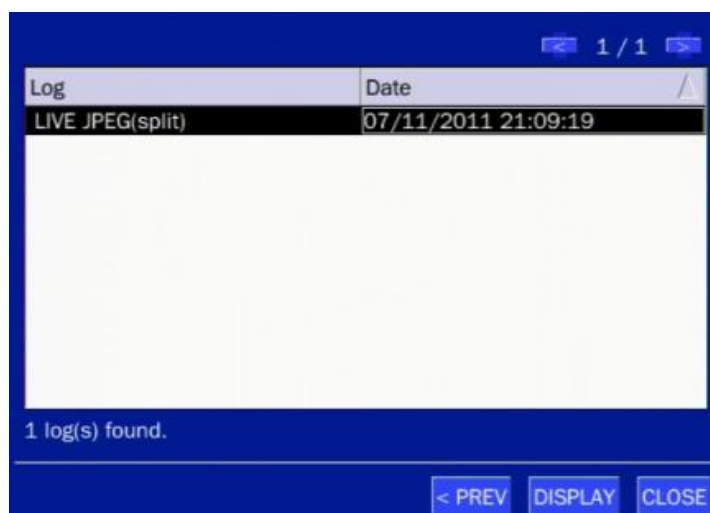


Figure 5.3.6. Archive Search Screen

When the Archive menu is selected, the user can see a calendar, which has recording data. Select a specific date and then the archived data will be displayed. Press the Display button to view the still image or the first frame of the selected video, then the user can save the selected data.

5-3-7. Log List

You can access the LOG list search screen by selecting LOG on the SEARCH window.



Figure 5.3.7. Log List Screen

When the Log menu is selected, the user can see a calendar, which has a log data. Select a specific date and press NEXT button, and then the log data will be displayed. Press the SAVE button to save the data and then the data is saved as a text file format.

5-4. Play Mode

During playback of a recorded event, the mode changes from SEARCH to PLAY. While in PLAY mode, you may return to the SEARCH screen by pressing the X button on the status bar.

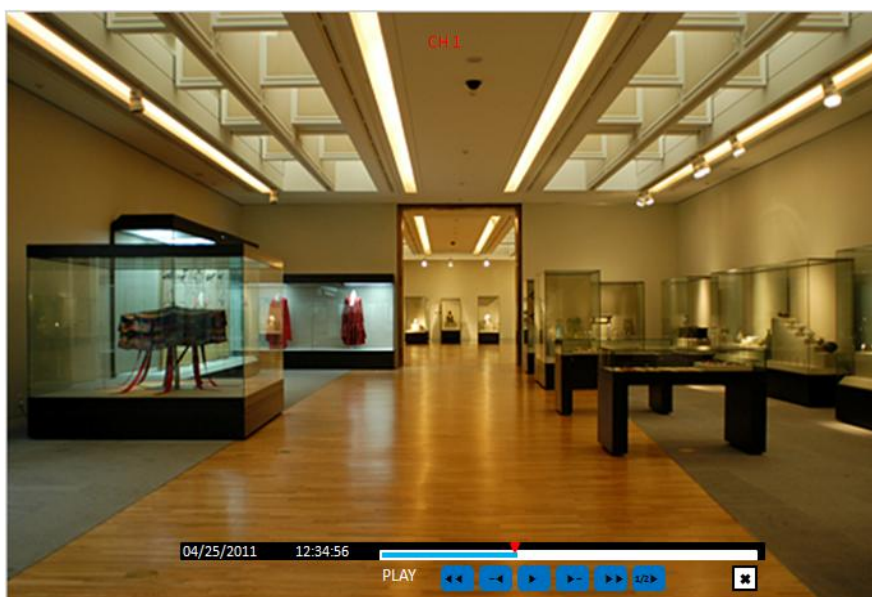










Figure 5.4.1. Play Mode Screen

The following status bar hides automatically and appears again if a mouse pointer is positioned to the bottom of the screen.

Table 5.4.1. Button Functions in PLAY Mode

Button	Description
	Press to rewind the footage of multi channel <ul style="list-style-type: none">• 1x, 2x, 4x, 8x, 16x, 32x speeds for D4RS/D4WRS• 1x, 2x, 4x, 8x, 16x for D8RS/D8WRS• 1x, 2x, 4x, 8x for D16RS/D16WRS Single Channel backward playback speed 1x, 2x, 4x, 8x, 16x, 32x, 64x
	Jump/Step backward. The playback position moves 60 seconds backward.
	Press to play or pause recorded video.
	Jump/Step forward. Playback position moves 60 seconds forward.
	Press to fast-forward the footage of multi channel <ul style="list-style-type: none">• 2x, 4x, 8x, 16x, 32x speeds for D4RS/D4WRS• 2x, 4x, 8x, 16x for D8RS/D8WRS• 2x, 4x, 8x for D16RS/D16WRS Single Channel forward playback speed 1x, 2x, 4x, 8x, 16x, 32x, 64x
	Slow Mode play. Forward playback speed x1/4, x1/2
	Press to backup the video.
	Return to the previous menu screen, search window, or exit from the Menu.

6. Back Up

6-1. Still Image Backup onto USB Flash Drive

Still images can be captured and archived onto a USB flash drive or an external hard drive in live mode or while playing back recorded video. In the live mode, press the BACKUP button to launch the archive function or select BACK UP menu on the screen using the mouse.

1. Select a specific channel, which wants to backup on live screen.
2. When you press BACKUP button, the archiving screen will display.
3. Once you press Backup button, the system will capture a still image.

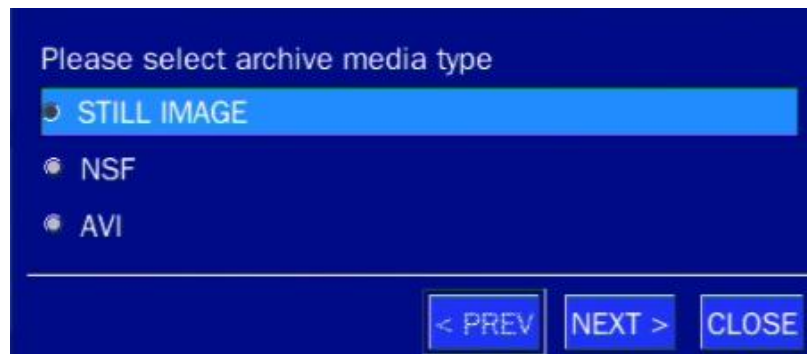


Figure 6.1.1. Still Image Archiving and Backup Screen



NOTICE

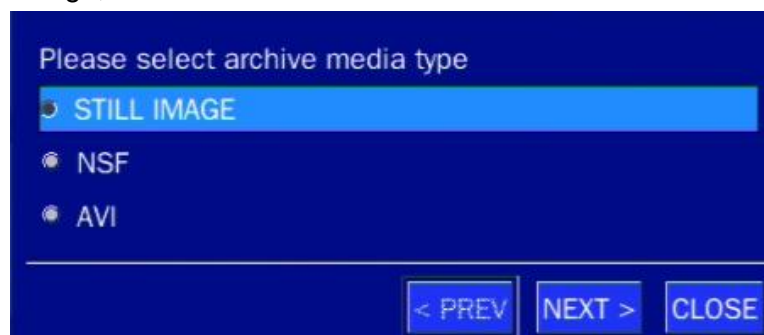
USB Flash Drive must be in FAT32 file format.

6-2. Video Backup onto USB Flash Drive

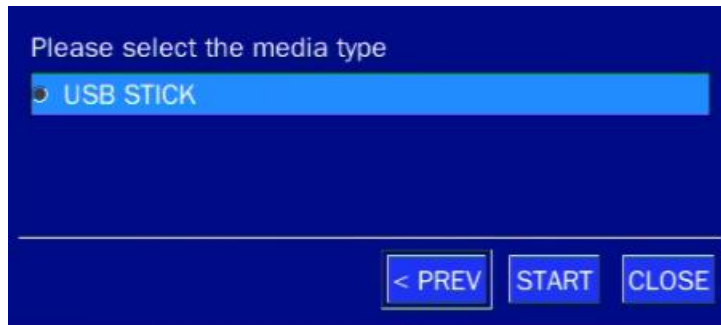
Video can be captured and archived onto the USB flash drive or a hard drive while playing back the recorded video.

In playback mode, press the BACKUP button to launch the backup function.

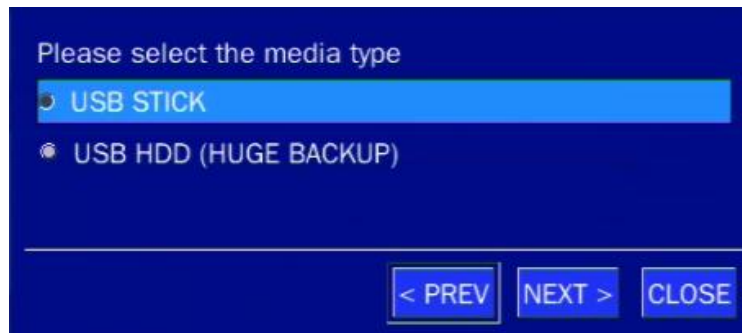
1. When you press BACKUP button on the selected channel or all channels, the DVR will ask whether to archive a Still Image, a NSF or AVI.



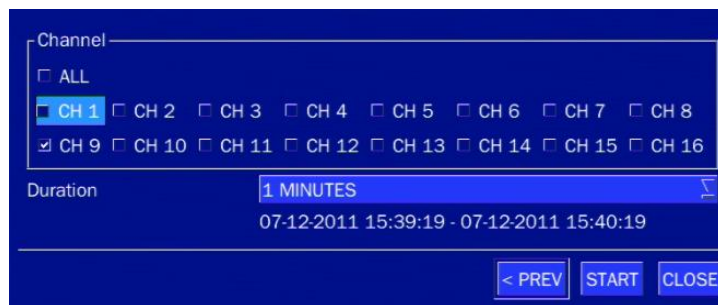
2. Select the proper media type.



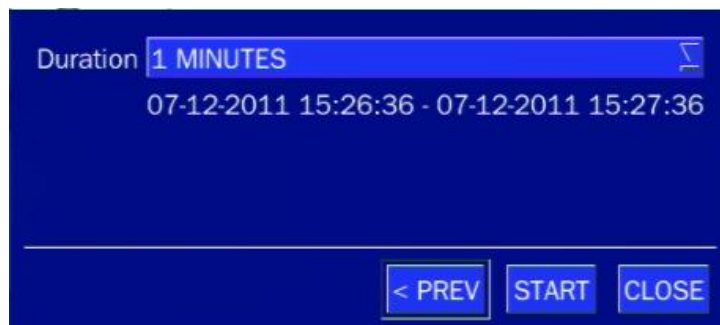
3. Select USB STICK (Flash Drive) to back up less than an hour.
Select USB HDD (Huge Backup) to back up from 1 hour to 24 hours.



4. Once you select the channel and duration, the system will start to archive the data to the USB flash drive.



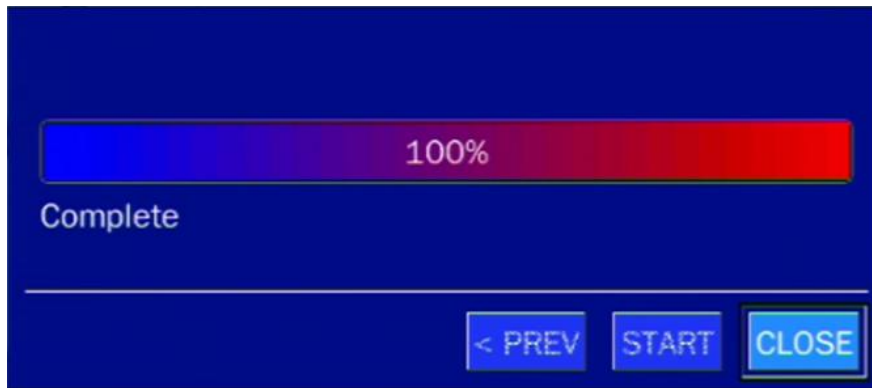
5. The following image pops up in case of starting backup on one channel screen.



6. The following image shows the progress of archiving the data.



7. The following shows the image to complete the backup. Select lose to return to the previous screen.

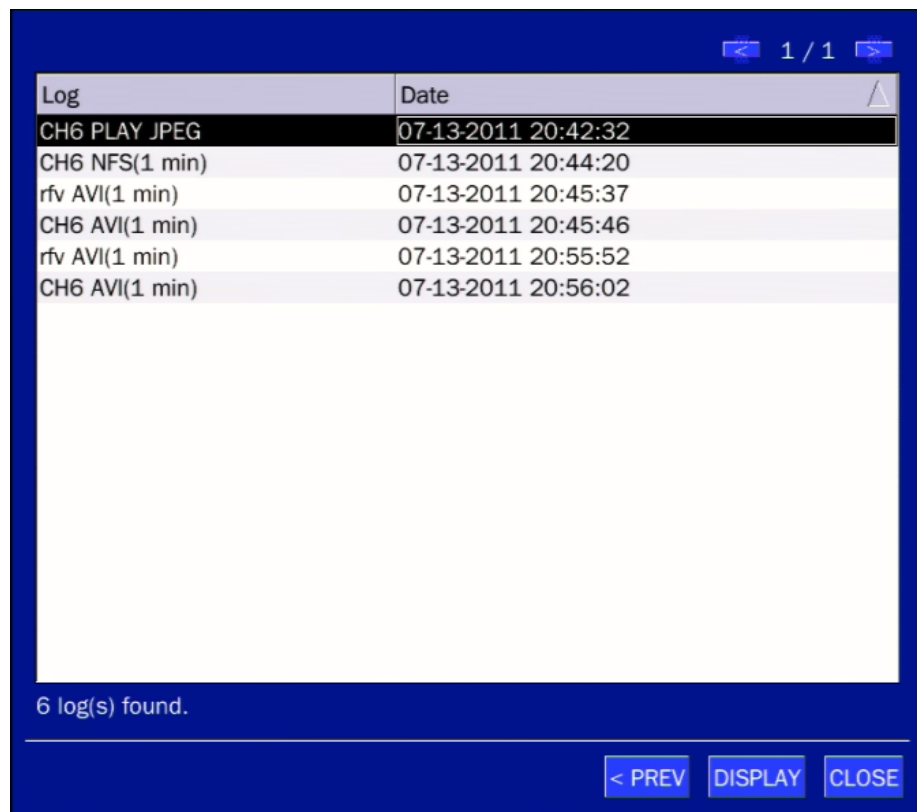


6-3. Transferring Still Images or Video from the ARCHIVE List

The stored data in the hard drive can be found in the ARCHIVE list in the SEARCH window.

User can back up still images or video into the storage device from the ARCHIVE list.

1. Select the date to begin searching and navigate through the days using the mouse or the control button or the remote control.
2. Once you have selected the date, press the NEXT button to open the list of stored data.
3. Use the mouse or the control button on the remote control to scroll through the archive list.
4. Select a list of stored events in the archive list.
5. Once the desired event has been selected, press the DISPLAY button to view the still image or the first frame of the selected video.
6. Press the BACKUP button to launch the archiving function in playback mode.
7. Press the CLOSE button to return to the SEARCH window.



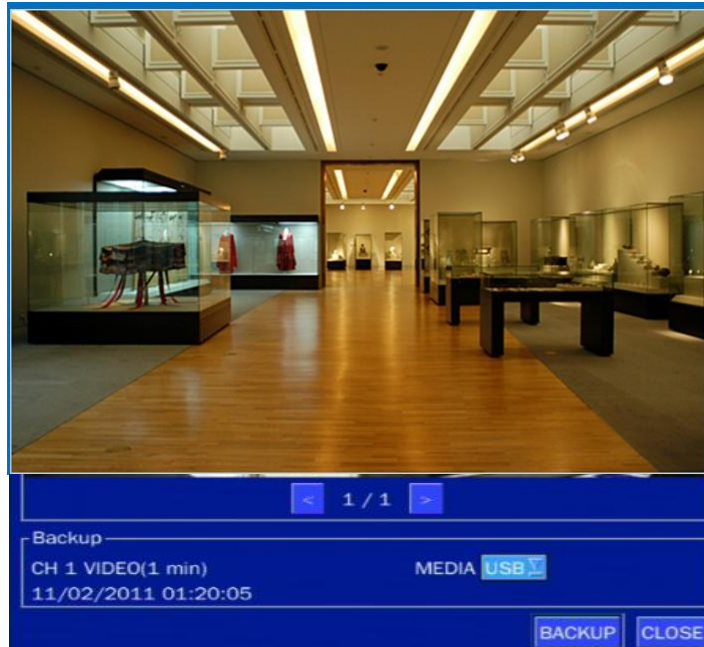


Figure 6.3.1. Archive Search Screen

6-4. Playback of Backup Video

- **AVI format:** AVI format video can be played back by Window Media Player™ or other media player that is compatible with AVI format video.
- **NSF format:** NSF format video can be played back using the player that the DVR copies on USB flash drive with video.
- **Digital Zoom Feature:** Use the mouse scroll to use digital zoom in and out feature.



7. Network Access Using the Multi-Sites Network Viewer

7-1. Overview

The SpecoTech Multi Client is a multiple site monitoring client software with; video, audio, and alarm signals from the DVRs over networks. The SpecoTech Multi Client does not limit the number of DVR units to register.

The program displays up to 16 DVRs and supports dual monitors.

On the program, user may control PTZ cameras on the DVRs. By attaching a microphone and speaker system to devices on site, the user may make bi-directional audio communication over the network.

7-2. PC Requirements

Minimum PC Requirements

CPU	Intel Core i3
	1.8Ghz
Memory	2GB DDR2
VGA	512MB
Resolution	1280x720
Disk Space	1GB
OS	Windows 2000, XP Professional, XP Home, Vista, 7 (NOTE: Not all versions of Vista and 7 are supported)
Network	10/100Base T
Others	Direct X 9.0c or Higher

Recommended PC Requirements

CPU	Intel Core i5
	2Ghz or higher.
Memory	4GB DDR3 or higher.
VGA	512MB or higher.
Resolution	1920x1080
Disk Space	1GB
OS	Windows 2000, XP Professional, XP Home, Vista, 7 (NOTE: Not all versions of Vista and 7 are supported)
Network	10/100/1000Base T
Others	Direct X 10 or higher.

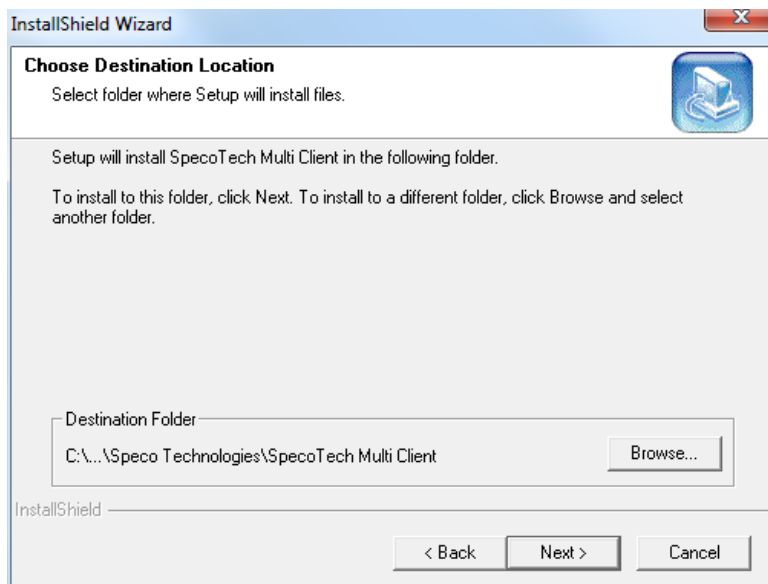
Before installing the program, check the PC specifications. The DVR remote software may not perform correctly if the PC does not meet the minimum requirements.

7-3. Installation of the Program

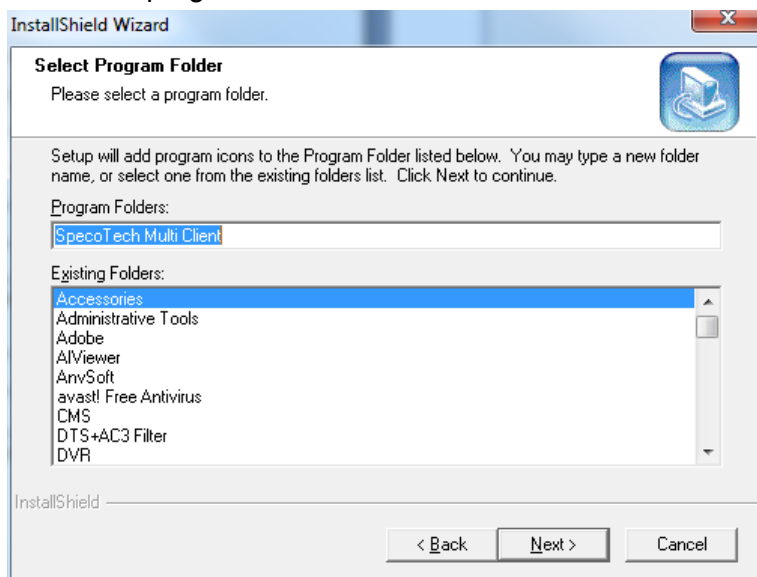
1. Insert the provided CD in the CD drive and double-click “SpecoTech Multi Client (XXXX).exe”



2. Select a destination folder and click “Next”.



3. Select the program folder and click “Next”.



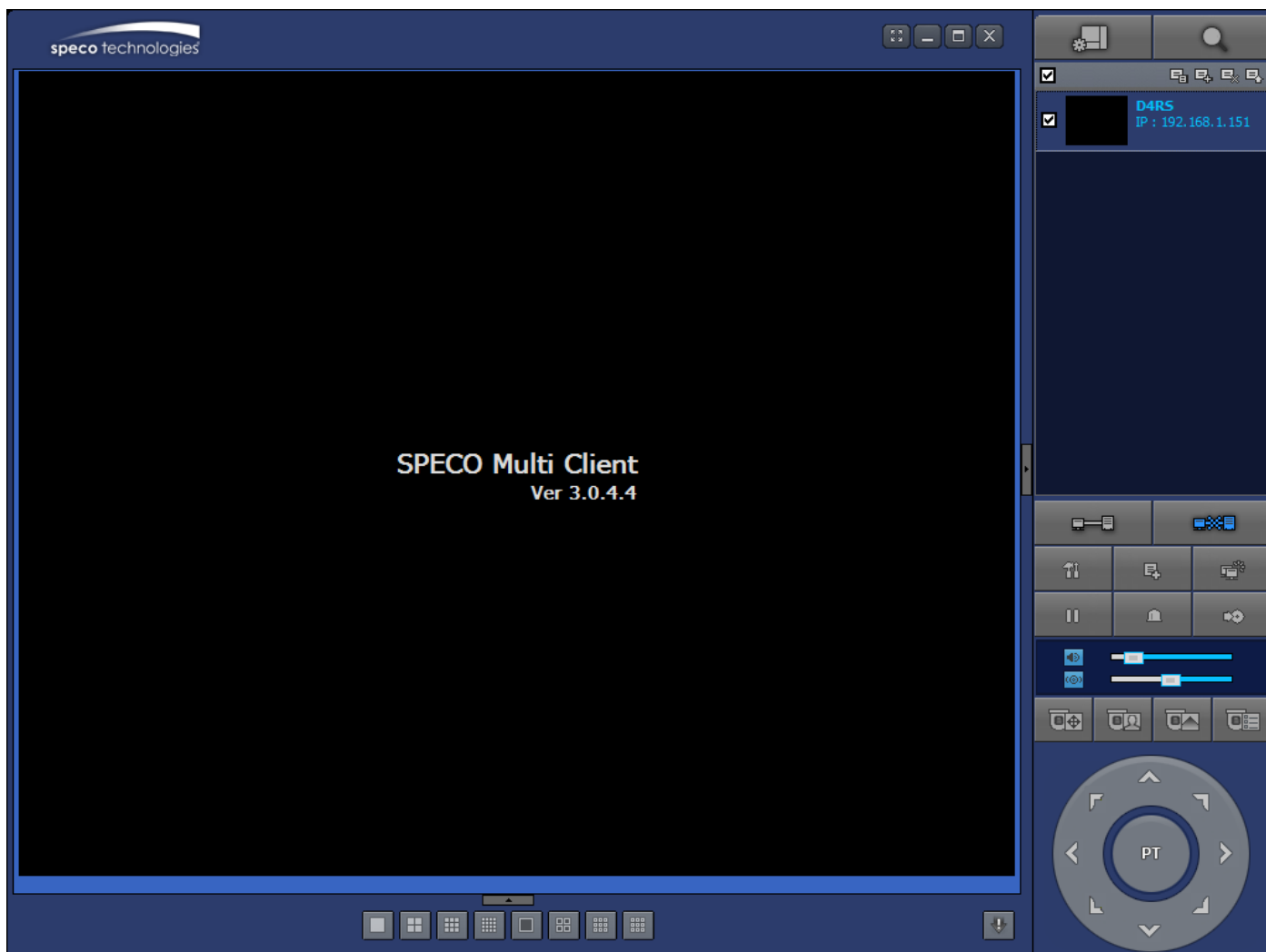
4. The installation status screen is displayed.
5. After the installation is completed, “**SpecoTech Multi Client**” icon displays on the desktop screen.





7-4. Live Window

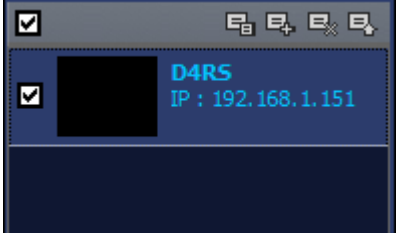

















When installation is completed, double click the “**SpecoTech Multi Client**” icon on your desktop to start the program.

7-4-1. Main User Interface



7-4-2. Control Buttons

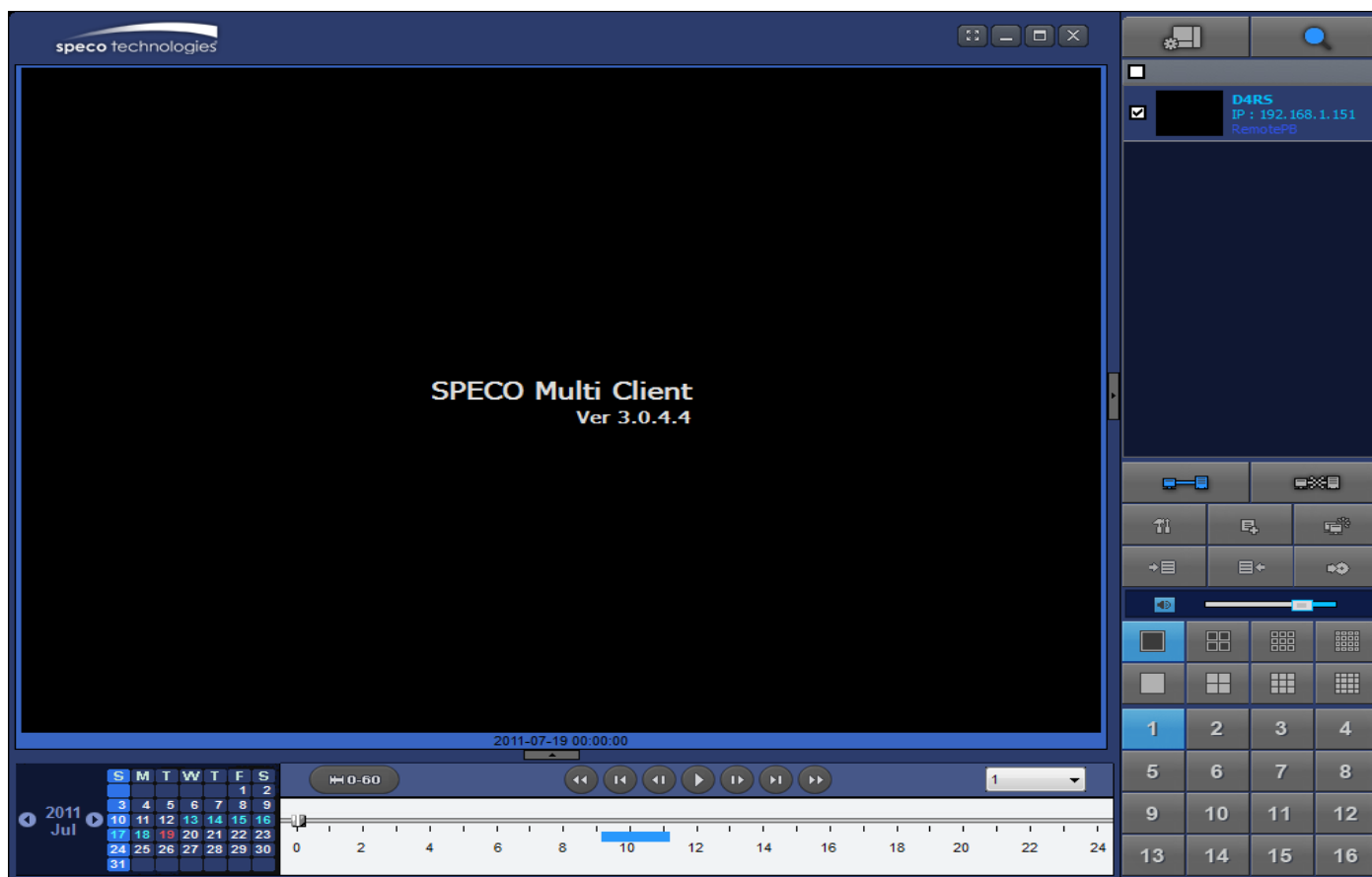
Button	Description
 LOCAL PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in the local PC.
 REMOTE PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in the remote DVR.

 <p>SITE MANAGEMENT</p>	<p> THUMBNAIL REFRESH: Click this icon to refresh and renew thumbnail image of the connected sites.</p> <p> SITE ADDITION: Click this icon to open 'Site Addition' window.</p> <p> SITE DELETE: Click this icon to delete site from the index window, after disconnect a site.</p> <p> NET FINDER: Select the site from the index window and click this icon to modify the information of specific site.</p>
 CONNECT	<p>Click this icon to connect the selected site/sites.</p>
 DISCONNECT	<p>Click this icon to disconnect the selected site/sites.</p>
 SETUP	<p>Click this icon to setup configuration of UMS MULTI CLIENT.</p>
 CAPTURE	<p>Click this icon to capture a still image.</p>
 EVENT LIST	<p>Opens list of events logged by the UMS Multi Client.</p>
 PAUSE	<p>Click this icon to play/pause live video.</p>
 ALARM ON	<p>Click this icon to turn on/off alarm outputs.</p>
 RECORD ON	<p>Enable or disable recording of live video to local disk, which has set in setup menu.</p>
 AUDIO	<p>Use the volume control bar to set the audio level.</p>
 MIC	<p>Use the microphone volume control bar to set the micro phone level.</p>
 PRESET/TOUR/SCAN/MENU	<p>User can control PRESET/TOUR/SCAN/MENU</p>
 CHANNEL SPLIT	<p>To select the numbers of display channel/channels (Single, quad, 9 channels, and 16 channels) of highlighted site.</p>
 DVR SITE SPLIT	<p>To select the numbers of DVR/DVRs (1 DVR, 4 DVRs, 9 DVRs, 16 DVRs) on main display screen.</p>



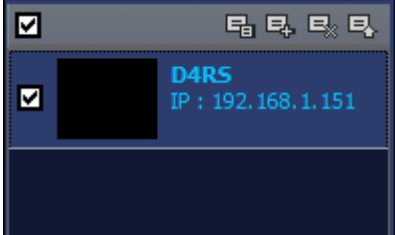




7-5. Search and Playback Window


















7-5-1. Main User Interface

You can access to search window by clicking the search icon (Local Playback / Remote Playback) on the upper right of the Live Window.



7-5-2. Main Control Panel

Button	Description
 LOCAL PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in the local PC.
 REMOTE PLAYBACK	Click this icon to run a playback window to search and play videos that are recorded in the remote DVR.
	 THUMBNAIL REFRESH: Click this icon to refresh and renew thumbnail image of the connected sites.  SITE ADDITION: Click this icon to open 'Site Addition' window.  SITE DELETE: Click this icon to delete site from the index window, after disconnect a site.  NET FINDER: Select the site from the index window and click this icon to modify the information of specific site.

 CONNECT	Click this icon to connect the selected site/sites.
 DISCONNECT	Click this icon to disconnect the selected site/sites.
 SETUP	Click this icon to setup configuration of SpecoTech Multi Client.
 CAPTURE	Click this icon to capture a still image.
 EVENT LIST	Opens list of events logged by the UMS Multi Client.
 EZCopy Start	Click this icon to set the beginning time for backup of the recorded video in AVI format.
 EZCopy End	Click this icon to set the ending time for backup of the recorded video in AVI format.
 BACKUP	Click this icon to backup the recorded video in AVI format.
 AUDIO	Use the volume control bar to set the audio level.
	To select the numbers of DVR/DVRs (1 DVR, 4 DVRs, 9 DVRs, 16 DVRs) on main display screen.
	To select the numbers of display channel/channels (Single, quad, 9 channels, and 16 channels) of highlighted site.
	To select the channel to playback.
	The calendar shows dates with recorded video in color.
	To display the recorded data of selected channel or all channels on a time line scale.
	To change a timeline scale from 24 hours to 60 minutes. The timeline shows recorded data in color on the bar. You can adjust the timeline scale and move it to the time you wish to playback. Then click the play icon to display the recorded video.
	Playback buttons.
	Digital Zoom Window in Live and Playback. (Only available in Single Channel Viewing)

7-6. Setup of SpecoTech Multi Client



Click the setup icon to setup the configuration of UMS Multi Client software. The SETUP window is displayed as below.

7-6-1. General

Security Option: Set a password for security options. Select security options and set a password.

Then when you access any of selected functions, you need to enter the password.

You can also set the save path for capturing and backup

Save Path: Specify the location to save captured still image for Capture and Backup data.

Miscellaneous

Automatic Reconnection: If enabled, the software will automatically try to reconnect to the last successful IP address. But, when CLIETN ACCESS is OFF on the DVR, the software will not try to reconnect even if it is enabled.

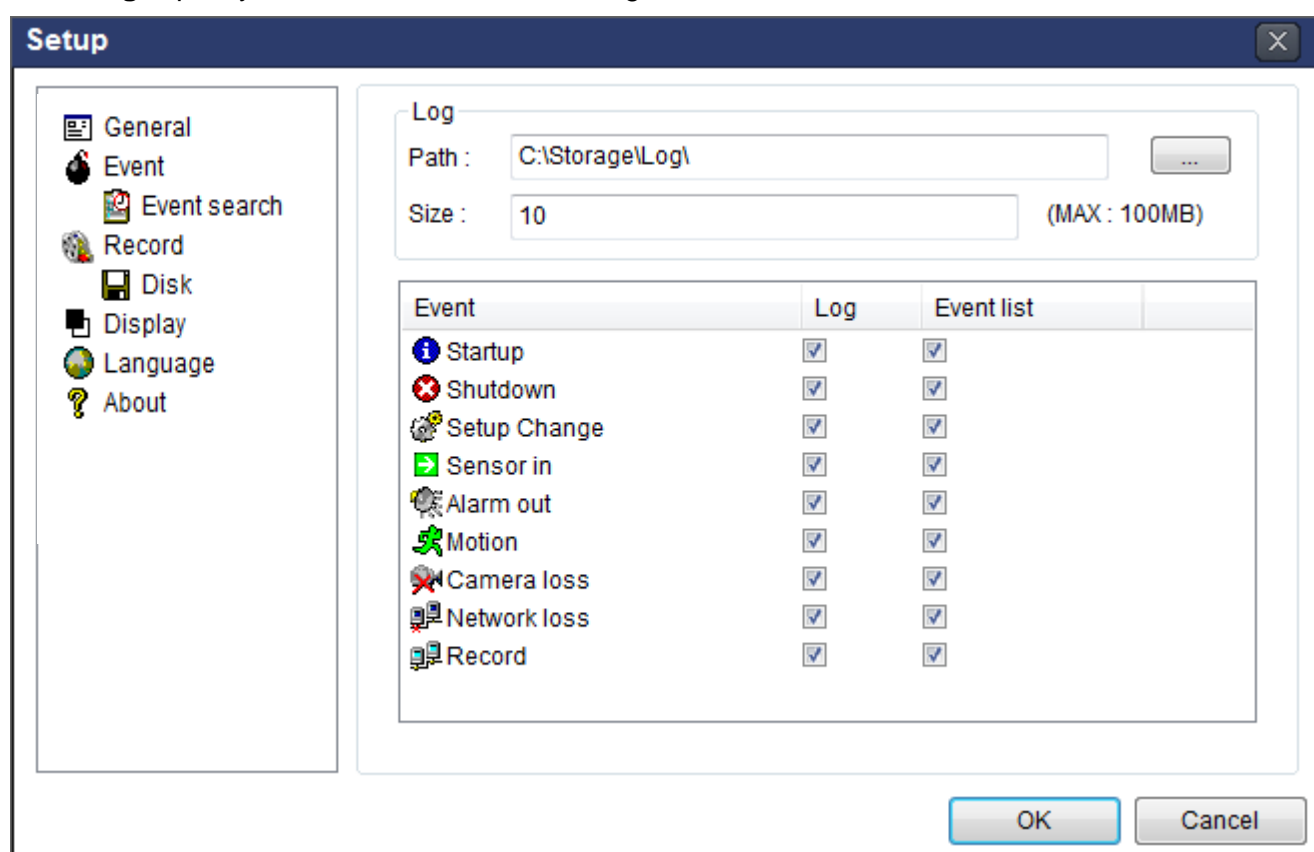
Always On Top: If enabled, the software display will be continuously on the top of other windows.

Time Format: Change the way the Client software displays the time.

7-6-2. Event

Event log can be archived and searched.

Event Log: Specify the location to save event logs and select event to archive.



Setup

Log

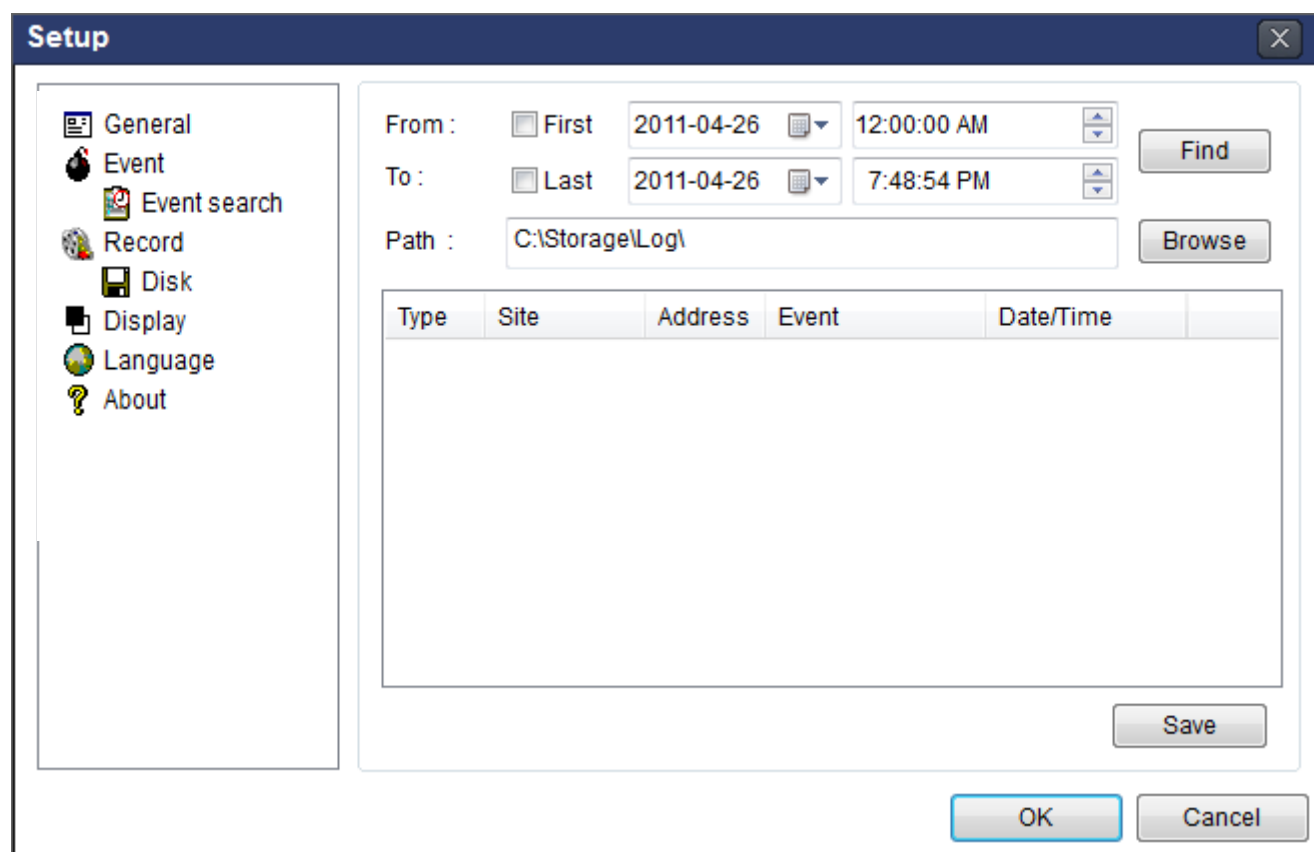
Path : C:\Storage\Log\

Size : 10 (MAX : 100MB)

Event	Log	Event list
Startup	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Shutdown	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Setup Change	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Sensor in	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Alarm out	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Motion	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Camera loss	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Network loss	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Record	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

OK Cancel

Event Search: Event log can be searched from the selected time.



Setup

From : ☐ First 2011-04-26 12:00:00 AM

To : ☐ Last 2011-04-26 7:48:54 PM

Path : C:\Storage\Log\

Find

Browse

Type	Site	Address	Event	Date/Time
------	------	---------	-------	-----------

Save

OK Cancel

7-6-3. Record

Record Setup: You can set the recording conditions as the following; Always, Event, or Auto record. And you can also select target DVR/DVRs and channel/channels. When you set the recording condition to event, you can set event for motion or alarm with duration.

The screenshot shows the 'Record Setup' dialog box. On the left is a sidebar with icons and labels for 'General', 'Event', 'Event search', 'Record', 'Disk', 'Display', 'Language', and 'About'. The main area is titled 'Record Condition' and contains three radio buttons: 'Always' (selected), 'Event', and 'Auto record'. Below this is an 'Event' section with checkboxes for 'Motion' and 'Alarm', and a 'Duration' field set to '5' with the unit 'Sec'. The 'Channel' section has a 'Site' dropdown menu set to 'Site 1' and an 'All site' checkbox. Below this is a table with columns 'NO.' and 'CH'. The table lists channels 1 through 6, each with a checkbox. At the bottom right are 'OK' and 'Cancel' buttons.

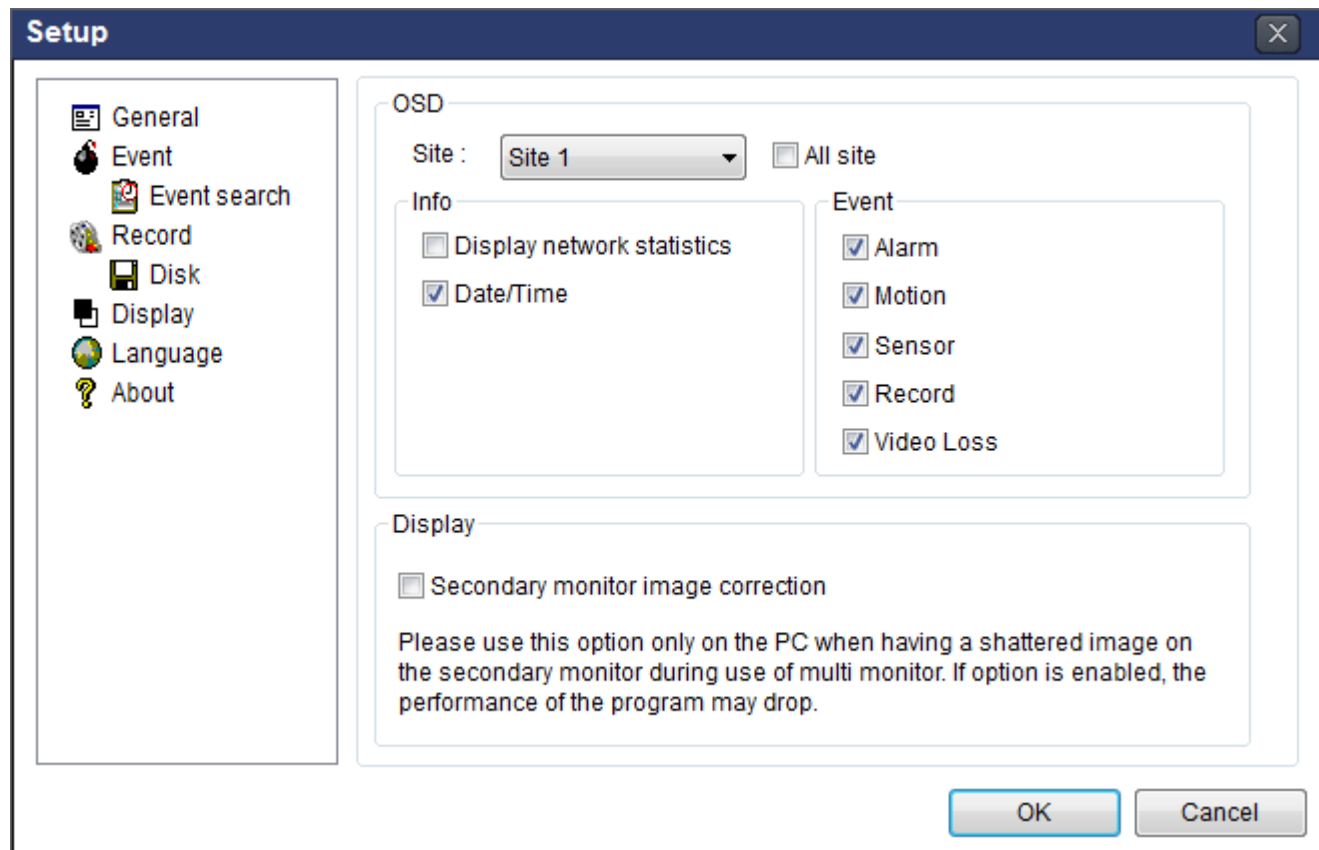
NO.	CH
<input type="checkbox"/> 1	Channel 1
<input type="checkbox"/> 2	Channel 2
<input type="checkbox"/> 3	Channel 3
<input type="checkbox"/> 4	Channel 4
<input type="checkbox"/> 5	Channel 5
<input type="checkbox"/> 6	Channel 6

Record Local Storage Setup: You can select the local disk to record and the amount of disk space you want to allow the program to use for recording. You can also select the option to overwrite data or stop recording when the maximum amount of disk space is full.

The screenshot shows the 'Record Local Storage Setup' dialog box. On the left is a sidebar with icons and labels for 'General', 'Event', 'Event search', 'Record', 'Disk', 'Display', 'Language', and 'About'. The main area has a 'Disk Space' section with a dropdown menu set to 'C:\' and a text field set to '4' with the unit 'GB'. Below this is a 'Disk Info' section showing 'Total space : 465 GB' and 'Free space : 398 GB'. The 'Disk full' section has two radio buttons: 'Replace oldest files.' (selected) and 'Stop recording.'. At the bottom right are 'OK' and 'Cancel' buttons.

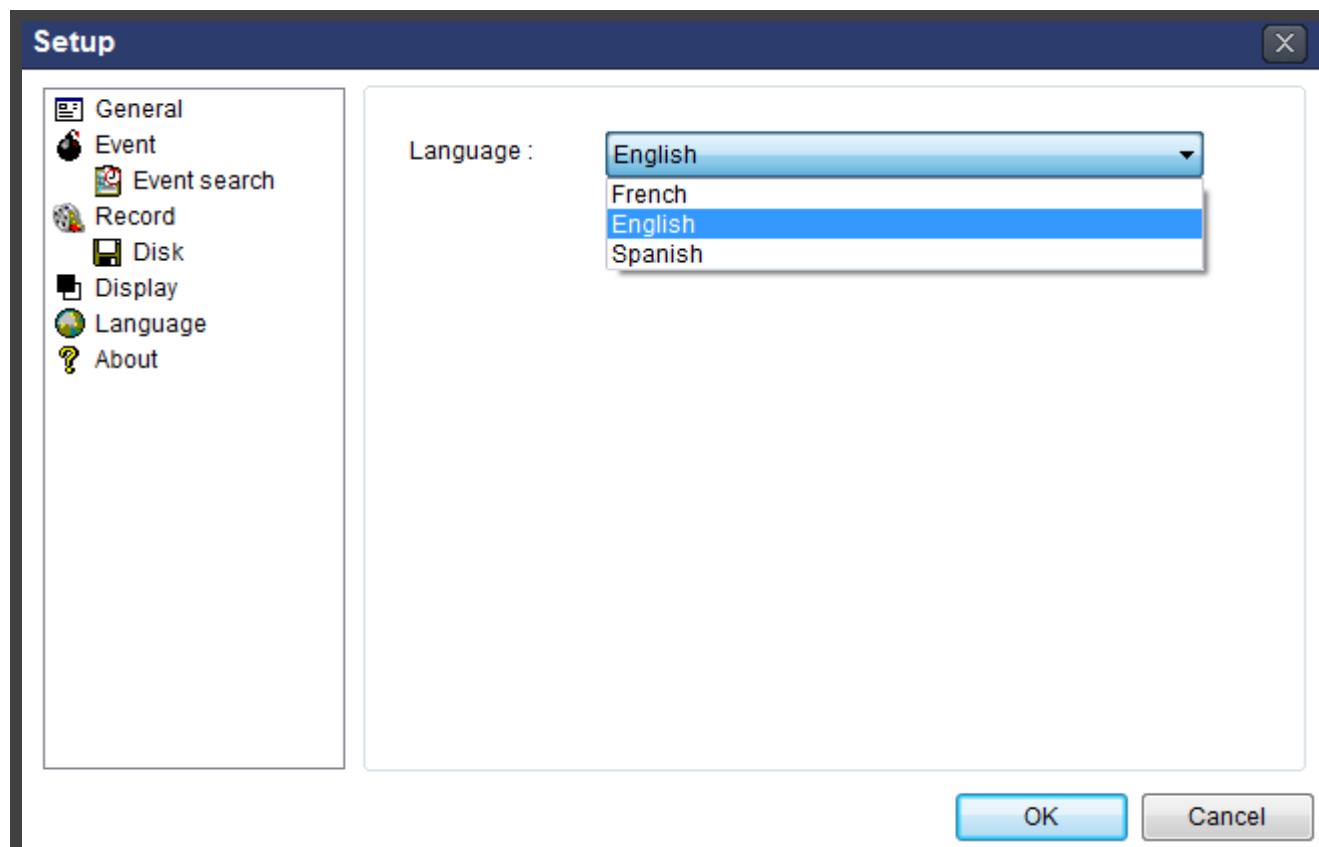
7-6-4. Display

You can select the OSD (On Screen Display) to be displayed.



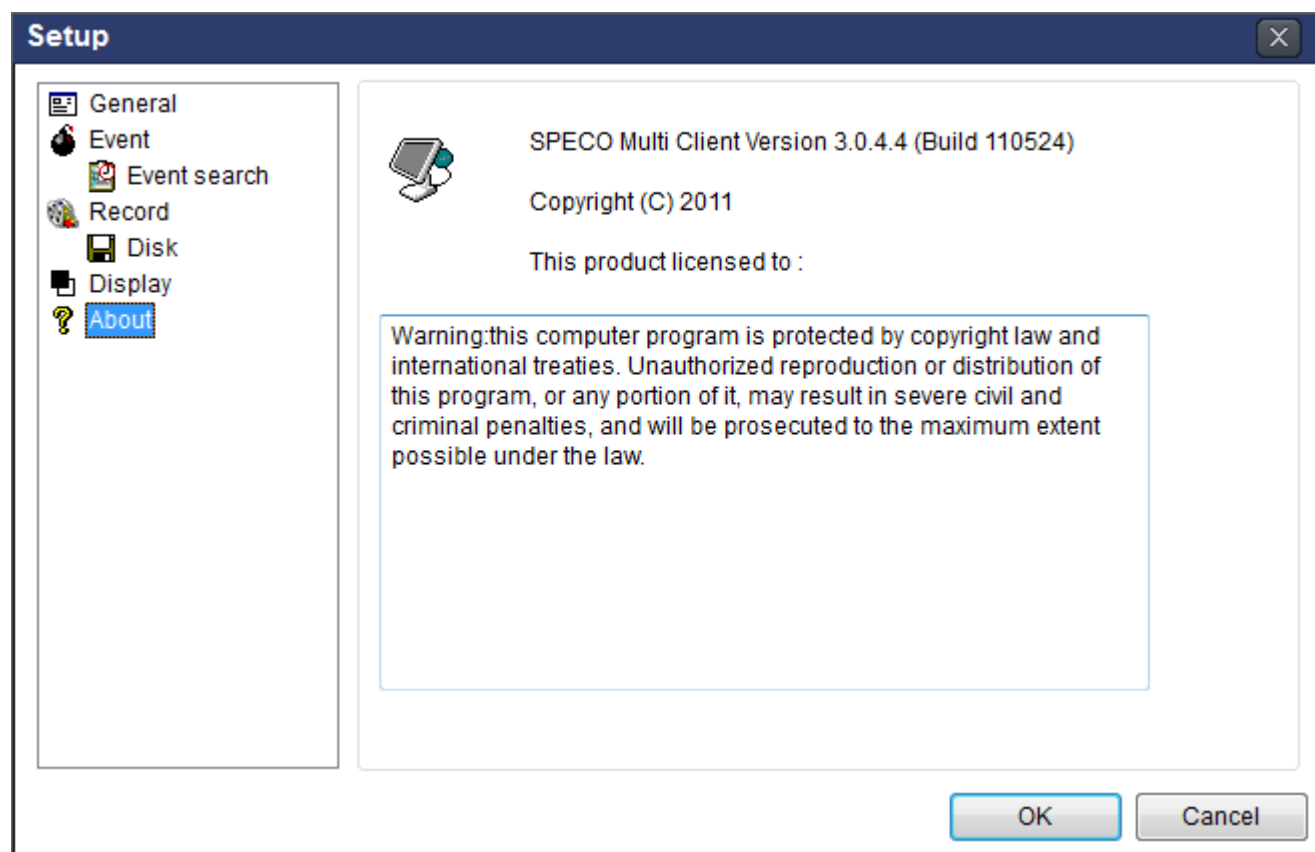
7-6-5. Language

English, French and Spanish is selectable.



7-6-6. About

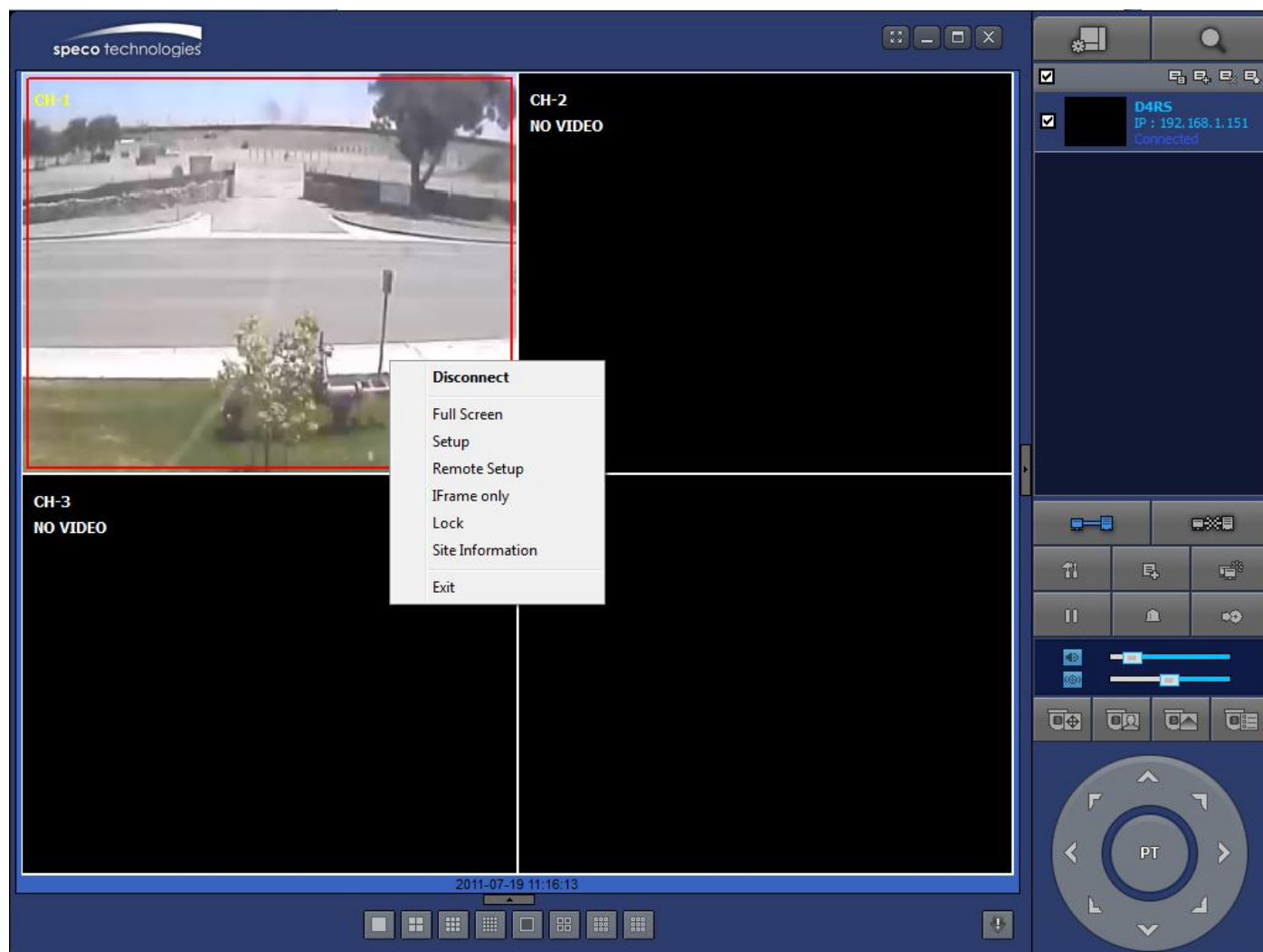
“About” provides network client version information.



7-7. Remote Setup

The menu settings for the DVR unit can be set over network.

Put the cursor of the mouse on the channel, which is connected to the site and right click on the mouse to open the submenu. Then the following window is displayed as below. Select the **REMOTE SETUP**.



Then the setup window is displayed. The specified menu screen is displayed on the upper left of the screen.

Enter the password of the DVR when prompted. (NOTE: The default password is 1111)

Setting is the same as with the DVR menu setting. Refer to the corresponding pages for details on the setting items.

WEB SETUP

(ver 1.04)

PASSWORD:

7-7-1. System

Select **System** to set system and time settings.

Remote setup

SPECO WEB SETUP (ver 1.27)

SYSTEM | RECORD | DEVICE | DISPLAY | NETWORK | STORAGE | UPGRADE

DATE DISPLAY FORMAT: MM/DD/YYYY

CLIENT ACCESS: ☒ ON ☐ OFF

NTP SETUP: ON

PRIMARY SNTP SERVER: Pool.ntp.org

SECONDARY SNTP SERVER: Time.nist.gov

TIME ZONE: GMT +0:00 (Lisbon/London/Monaco)

CONNECTION MODE: TIME

CONNECTION PERIOD: 03:00 AM

SEND EMAIL SETUP: ON

TRANSMISSION MODE: IMAGE

IP NOTIFICATION: ON

SMART: ON

MAIL PORT: 25

SECURE OPTION: NONE

MAIL TO: smart@specotech.com

MAIL SERVER: mail.specotech.com

ID: specotech

PASSWORD:

MAIL FROM: SPECO RS4

UNIT NAME: SPECO RS4

1. **Date Display Format:** YYYY/MM/DD, MM/DD/YYYY, DD/MM/YYYY, YYYY-MM-DD, MM-DD-YYYY, DD-MM-YYYY
2. **Client Access:** Enable/Disable remote access through network client software.
3. **NTP:** Sets whether to synchronize the time using NTP server or not.
 - Primary SNTP Server:** Input the NTP primary server address.
 - Secondary SNTP Server:** Input the NTP secondary server address.
 - Time Zone:** Select the time zone.
 - Connection Mode:** Select the connection mode to NTP time server.
 - Connection Period:** Set the connection period.
4. **Send E-Mail:** Sets whether to enable/disable e-mail sending function.
 - TRANSMISSION MODE:** Sending an image only of the channel when an alarm event is triggered.
 - IP NOTIFICATION:** Enable/disable sending e-mail when the IP address of your DVR is changed.
 - SMART:** Enable/disable sending e-mail reports when S.M.A.R.T. is triggered
 - EVENT ALARM:** Enable/disable sending e-mail reports when an alarm event is triggered.
 - MAIL PORT:** Mail port setting.
 - SEURE OPTION:** Select a secure mail server connection. (**SSL or TLS**)
 - Mail to:** Input the appropriate email address to enable sending e-mail reports
 - Mail Server:** Input the SMTP server name as well as the user ID and password.
 - Mail From (Return Mail Address):** Set the source e-mail address to be notified to the destination.
5. **USER NAME:** Name the DVR

7-7-2. Record

Select **RECORD** tab to set the recording conditions.

The screenshot shows the 'SPECO WEB SETUP' window (version 1.27) with the 'RECORD' tab selected. The interface is divided into two main sections: 'SITE' and 'EZRecord'. The 'SITE' section includes settings for Resolution (D1), Frame Rate (20 FPS), Quality (LEVEL 4), Recording Mode (MOTION), Pre Record (15 SECOND(S)), Post Event Record (19 SECOND(S)), and Audio (ON). The 'EZRecord' section includes settings for Resolution (D1), Frame Rate (4 FPS), Quality (LEVEL 4), Recording (MOTION), and Days to Record (896 DAY(S) 22 HOUR(S)). There are 'RELOAD' and 'APPLY' buttons at the bottom right.

Category	Setting	Value
SITE	SITE	CH1
	RESOLUTION	D1
	FRAME RATE	20 FPS
	QUALITY	LEVEL 4
	RECORDING MODE	MOTION
	PRE RECORD	15 SECOND(S)
	POST EVENT RECORD	19 SECOND(S)
AUDIO	<input checked="" type="radio"/> ON <input type="radio"/> OFF	
EZRecord	RESOLUTION	D1
	FRAME RATE	4 FPS
	QUALITY	LEVEL 4
	RECORDING	MOTION
	DAYS TO RECORD	896 DAY(S) 22 HOUR(S)

These settings apply to the specified channel only.

1. Recording Setup

- Resolution:** Sets the resolution for the recordings. The set value applies to an individual channel.
- Frame Rate:** Sets the recording rate.
- Quality:** Sets the image quality in 5 levels.
- Recording:** Sets the recording mode.
- Recording Mode:** CONTINUOUS, SCHEDULE, MOTION
- Pre Record:** Sets whether to perform or not pre recording.
- Post Event Record:** Sets the duration of the event recording.
- Audio:** Sets whether to perform or not audio recording.

These settings apply to all channels.

2. EZRECORD

- Resolution:** Sets the resolution for the recordings. The set value applies to an individual channel.
- Frame Rate:** Sets the recording rate.
- Quality:** Sets the image quality in 5 levels.
- Recording Mode:** Sets the recording mode.
- RECORD Days:** By the setting value, the Recording Days will change accordingly.

7-7-3. Device

Select **Device** to set Spot Out, Enable/Disable CVBS Out, motion zone.

The screenshot shows the 'Remote setup' window for 'SPECO WEB SETUP (ver 1.27)'. The 'DEVICE' tab is selected. The settings are as follows:

Setting	Value
MOTION	
SITE	CH1
MOTION ZONE	PARTIAL ZONE
MOTION SENSITIVITY	5
KEY TONE	<input checked="" type="radio"/> ON <input type="radio"/> OFF
REMOTE CONTROLLER ID	0

Buttons: RELOAD, APPLY

1. **Motion:** Setup the motion detection area and the sensitivity.
 - **SITE:** Select the channel
 - **MOTION ZONE:** FULL Zone or PARTIAL Zone
 - **Motion Sensitivity:** 1~9 (High sensitivity level)
2. **Key Tone:** Sets On or Off of Key Tone.
3. **Remote Controller ID:** Sets an ID number on the supplied remote control for its identification.

7-7-4. Display

Select the **DISPLAY** tab to set the DISPLAY conditions.

The screenshot shows the 'Remote setup' window for 'SPECO WEB SETUP (ver 1.27)'. The 'DISPLAY' tab is selected. The settings are as follows:

Setting	Value
OSD	<input checked="" type="radio"/> ON <input type="radio"/> OFF
OSD CONTRAST	100
SEQUENCE	<input checked="" type="radio"/> ON <input type="radio"/> OFF
SEQUENCE-DWELL TIME	5 SECOND(S)
SITE	CH1
NAME	FIRST
COVERT	OFF
BRIGHTNESS	50
CONTRAST	50
HUE	50
SATURATION	50

Buttons: RELOAD, APPLY

These settings apply to all channels.

1. **OSD:** Sets whether to display or not date and time as well as channel number on the screen.
2. **OSD Contrast:** Adjust the character contrast on the screen.
3. **Sequence:** Setting for automatically switching the displayed video.
4. **Sequence-Dwell Time:** Sets the interval for automatically switching the screens.
5. **SITE:** Name, Covert, Brightness, Contrast, Hue, Saturation

These settings apply to the specified channel only.

7-7-5. Network

Remote setup

SPECO WEB SETUP (ver 1.27)

SYSTEM	RECORD	DEVICE	DISPLAY	NETWORK	STORAGE	UPGRADE
NETWORK TYPE				STATIC		
IP				172.168.0.4		
SUBNET MASK				255.255.255.0		
GATEWAY				172.168.0.1		
DNS (PRIMARY)				168.126.63.1		
DNS (SECONDARY)				168.126.63.2		
DDNS				OFF		
HOST NAME				hostname		
SUBMIT/UPDATE				OFF		
ezDDNS				OFF		
NETWORK PORT				5445		
WEB PORT				80		
NETWORK STREAM				CH1		
RESOLUTION				CIF		
FRAME RATE				10 FPS		
QUALITY				LEVEL 5(H)		

RELOAD APPLY

1. Network Type

- STATIC:** The address setting mode is manual. Input IP, Gateway, Subnet Mask, and DNS server IP.
- DHCP:** The address setting mode is automatic. Addresses and other information do not need to be set.

2. DDNS: Set whether to use DDNS service or not.

- Host Name:** Allows the user to setup a domain name manually
- SUBMIT/UPDATE:** Select ON to submit the settings
- ezDDNS:** Enable/disable ezDDNS to register the host name automatically

3. Network Port: When connecting multiple DVRs to the network, set a unique port number to each DVR.

4. Web Port: Set a web server port number.

5. Network Stream: Set the Resolution, Frame Rate, and the Quality.

7-7-6. Storage

Select **Storage** to configure continued recording settings by overwriting the hard disk and the storage period for the recording data.

The screenshot shows the 'Remote setup' window for 'SPECO WEB SETUP (ver 1.27)'. The 'STORAGE' tab is selected. The interface includes the following settings:

- OVERWRITE:** Radio buttons for ON (selected) and OFF.
- RECORDING LIMIT:** A dropdown menu set to 'OFF'.
- RECORDING LIMIT DAYS:** A dropdown menu set to '30 DAY(S)'.
- SMART:** A section header.
- TEMPERATURE LIMIT:** A dropdown menu set to '45°C 113°F'.
- ALARM:** Radio buttons for ON (selected) and OFF.
- BUZZER:** Radio buttons for ON (selected) and OFF.

At the bottom right, there are 'RELOAD' and 'APPLY' buttons.

1. **Overwrite:** To continue recording by overwriting when the hard disk becomes full, check the checkbox.
2. **Record Limit:** Sets whether to limit or not the recording data storage period.
 - **Record Limit Days:** Sets a recording data storage period.
3. **S.M.A.R.T.:** Sets the TEMPERATURE LIMIT of the Hard Disk to trigger the ALARM and the BUZZER.

7-7-7. Remote Upgrade

The screenshot shows the 'Remote setup' window for 'SPECO WEB SETUP (ver 1.27)'. The 'UPGRADE' tab is selected. The interface includes the following elements:

- Current S/W Version:** Ver 3.2.1 (07/13/2011)
- Search Bar:** A text input field with a 'SEARCH' button.
- Upgrade Button:** A button labeled 'UPGRADE'.

At the bottom right, there are 'RELOAD' and 'APPLY' buttons.

- **Shows the current Firmware version installed on DVR.**


Browse: Select BROWSE to locate the firmware file.

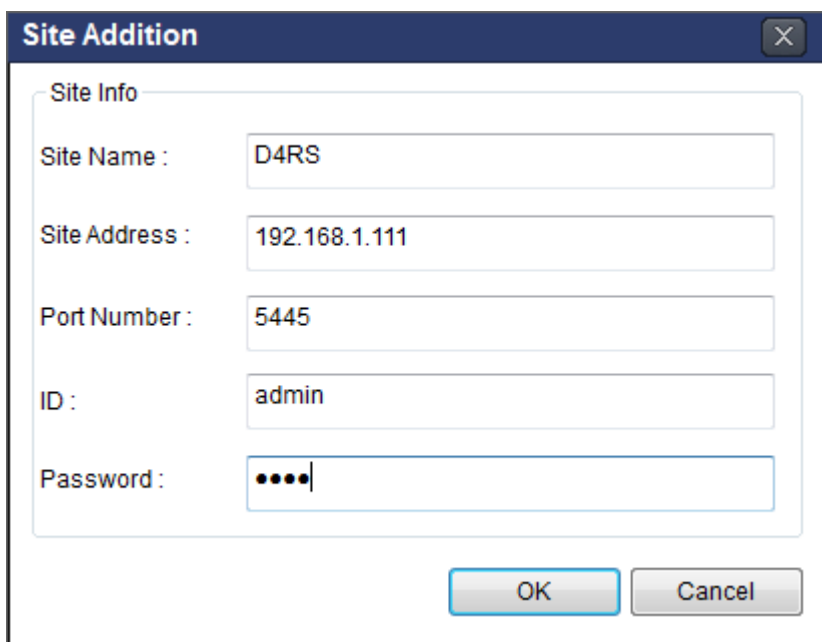
Upgrade: Select UPGRADE to upgrade the firmware of the DVR.

7-8. Operation

7-8-1. Addition, Delete, and Modify of DVR Sites

7-8-1-1. Addition of Sites

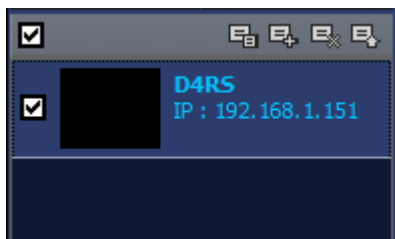
1. Click  SITE ADDITION button. And then the following window will be displayed as below.



The 'Site Addition' dialog box contains the following fields and buttons:

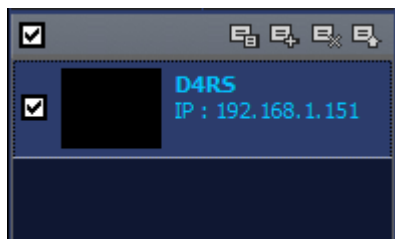
- Site Info** (Section Header)
- Site Name :** Text input field containing 'D4RS'.
- Site Address :** Text input field containing '192.168.1.111'.
- Port Number :** Text input field containing '5445'.
- ID :** Text input field containing 'admin'.
- Password :** Password input field with masked characters '....'.
- OK** button.
- Cancel** button.


- **Site Name:** Input a name that properly describes a site.
 - **IP Address:** Input IP address (Public IP address of a router that DVR is connected.) or Domain name
 - **Port Number: Default Port Number is “5445”.**
 - **ID:** Input ID of DVR. **Default ID is “admin”.**
 - **Password:** Input network password of DVR. **Default Password is “1111”.**
2. Click OK button. And then the registered site is added on the directory window.



7-8-1-2. Deleting a Site

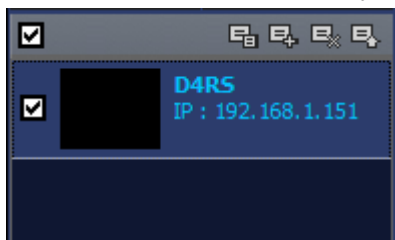
1. Select the site/sites to delete from the directory window.




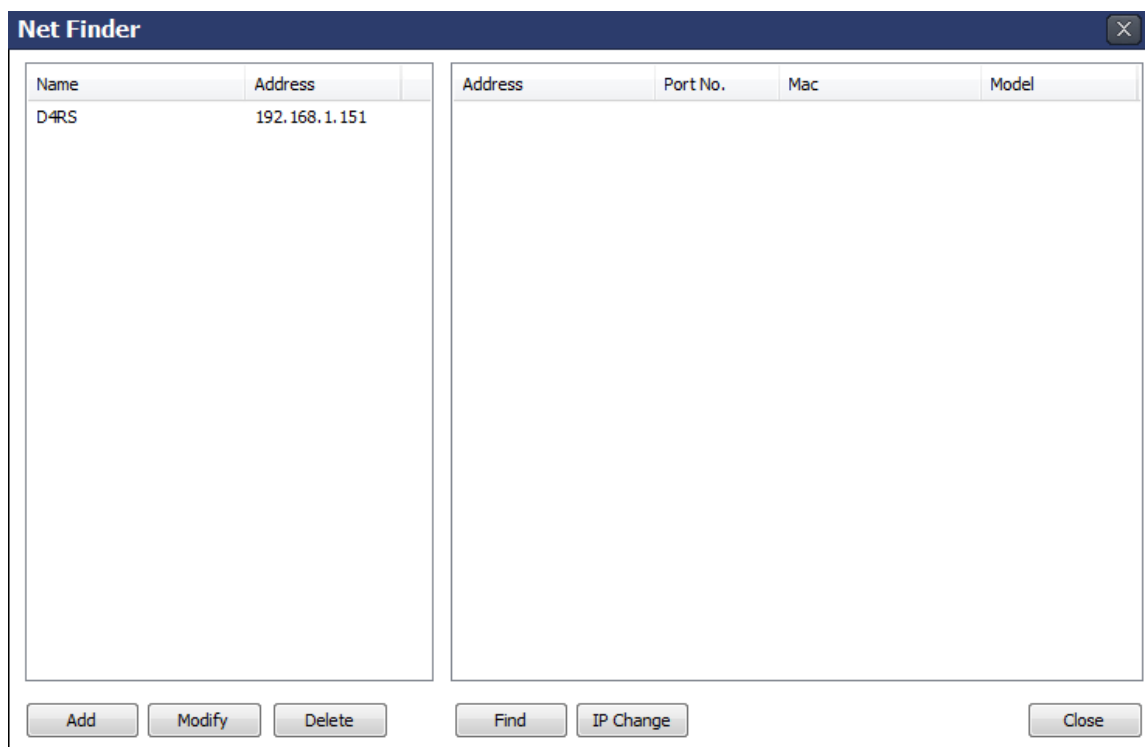
2. Click  SITE DELETE button. And then the selected site/sites is/are deleted.

7-8-1-3. Modify of Sites

1. Select the site/sites to modify from the directory window.



2. Click  NET FINDER button. And then the following window will be displayed as below.



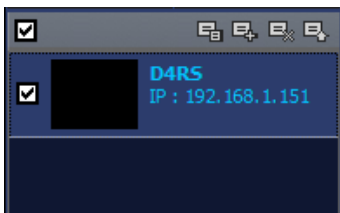
3. Click MODIFY button. And then the modified information is displayed as below.

A screenshot of the 'Site Modify' dialog box. It has a dark blue title bar with a close button. The dialog is divided into two sections. The top section, 'Site Info', contains fields for 'Site Name' (D4RS), 'Site Address' (192.168.1.151), 'Port Number' (5445), 'ID' (admin), and 'Password' (masked with dots). The bottom section, 'Channels', contains a dropdown menu labeled 'Channels' and a table with columns 'Ch No.' and 'Name'. The table has four rows: 1 CH-1, 2 CH-2, 3 CH-3, and 4 CH-4. At the bottom, there are 'OK' and 'Cancel' buttons.

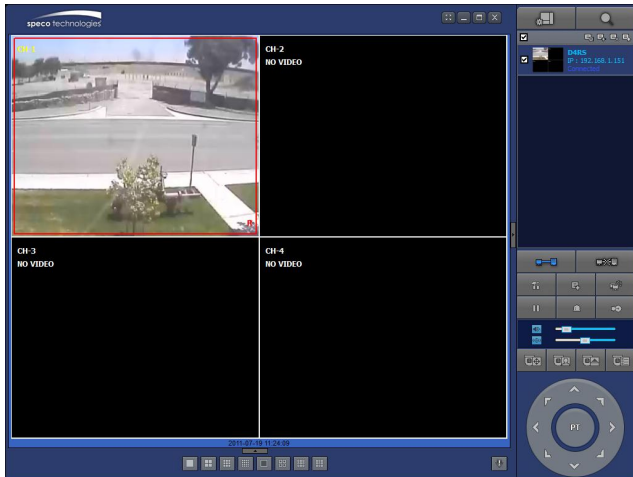
7-8-2. Connect and Disconnect

7-8-2-1. Connect

1. Select site/sites to connect from the directory window.

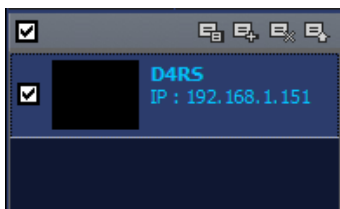


2. Click  CONNECT button, and then site/sites displays/display as connected.

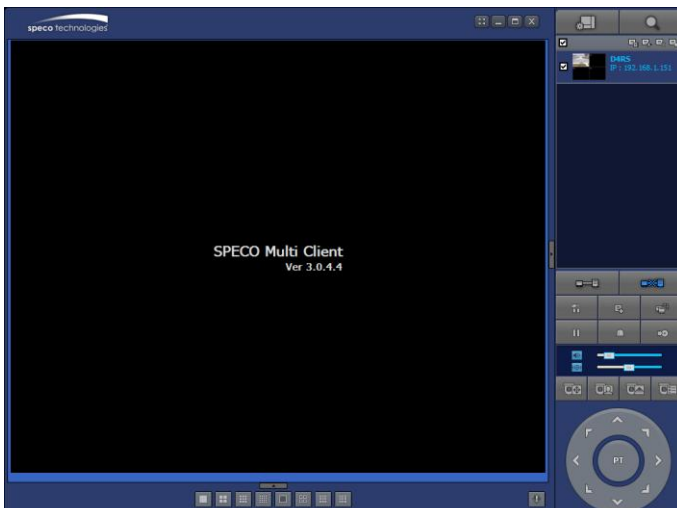


7-8-2-2. Disconnect

1. Select site/sites to disconnect from the directory window.

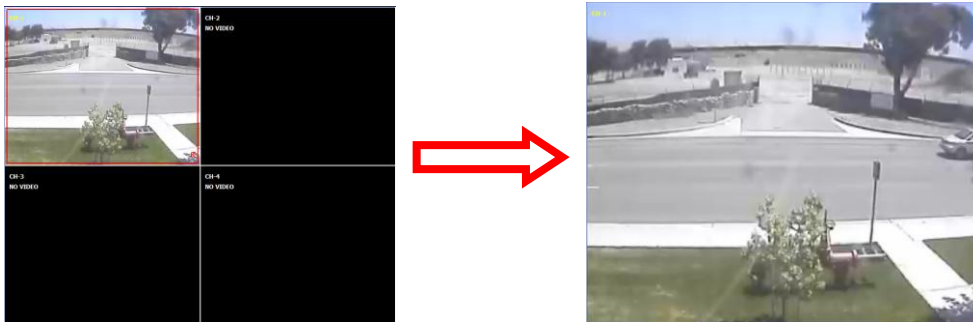



2. Click  DISCONNECT button, and then selected site/sites disconnected.

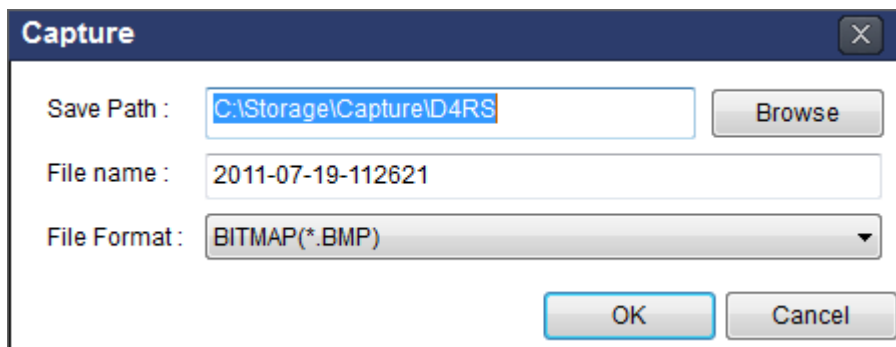


7-8-3. Still-image Capture During Live

1. Double-click a channel to capture from the display screen. (Otherwise all channels will be captured.).

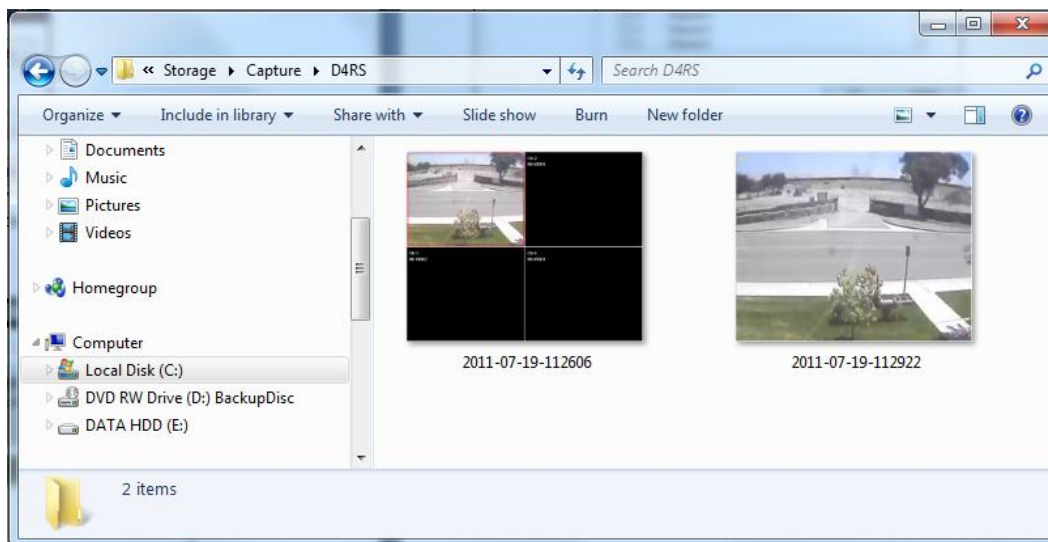


2. Click  CAPTURE button. And then a Capture window will be displayed as below.




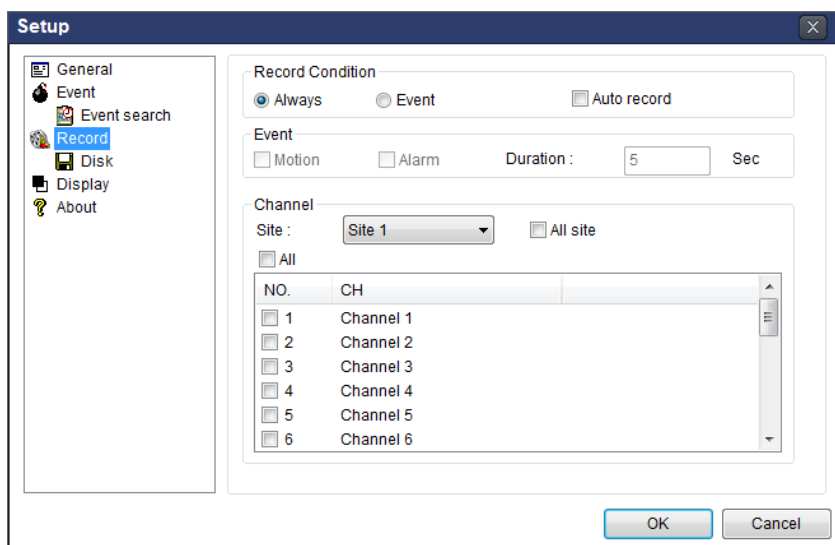
3. Set Save Path, File Name, and File Format. And then click OK button.

4. Still image is saved as set in Capture window.

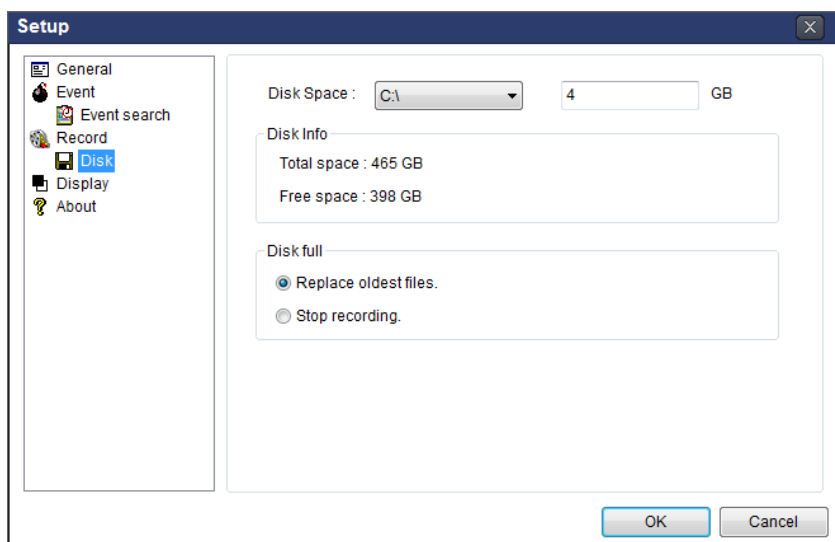



7-8-4. Recording Video on Local PC During Live

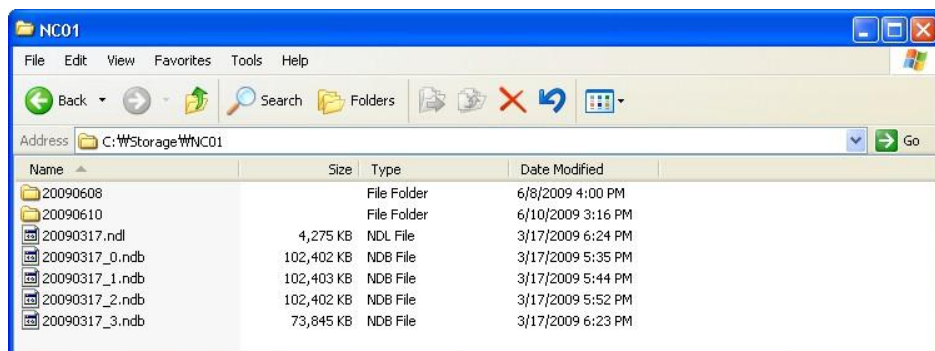
1. Click  SETUP button. And then a setup window will be displayed as below.
2. Select Record and set the values.



3. Select Disk and set the values.




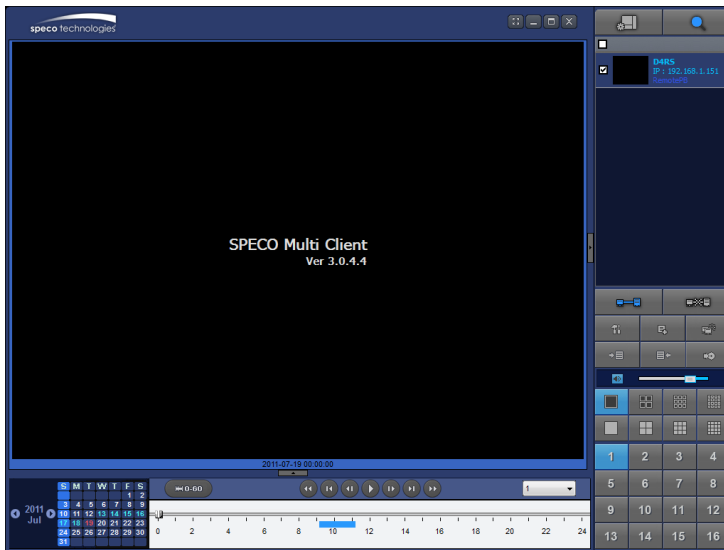
4. Click  RECORD ON button. And the color of button is changed.
5. Live video data is recorded as set in Record and Disk setup. These video data can be searched and play-backed with Local Playback.




7-8-5. Local Playback and Remote Playback

7-8-5-1. Playback of Recorded Video on a Local PC

1. Click  LOCAL PLAYBACK. And then Playback Window will be displayed over the Live Window.



2. Select site/sites to connect from the directory window.

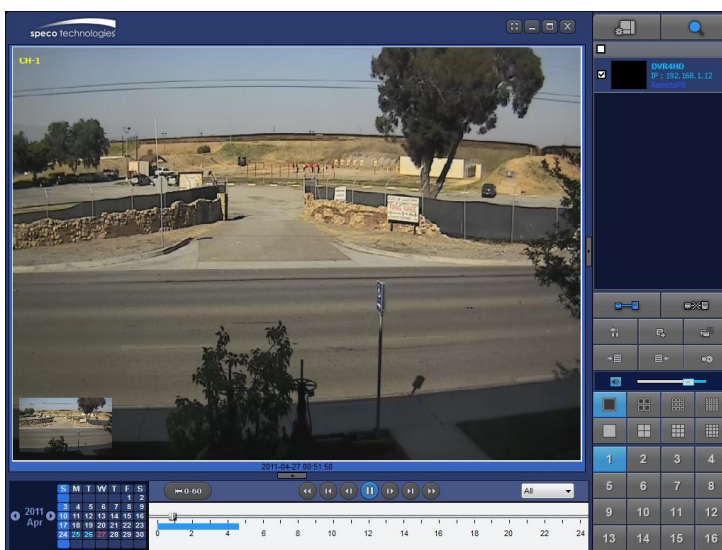
3. Click  CONNECT button. And then Green bar displays on Search calendar and timeline scale window.



8. Move the marker on the timeline scale to where there is video data and press the PLAY button.




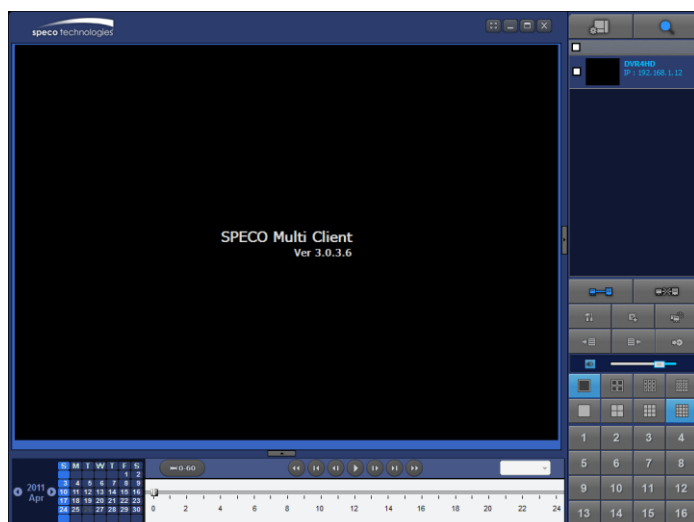
9. Video data that is recorded on local PC will be play-backed.




10. Use the mouse scroll to digitally zoom in and out from a single channel display.

7-8-5-2. Playback of Recorded Video on Remote DVR

1. Click  REMOTE PLAYBACK. And then Playback Window will be displayed over the Live Window.

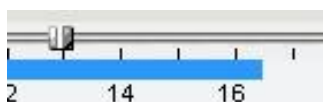


2. Select the site to connect from the directory window.

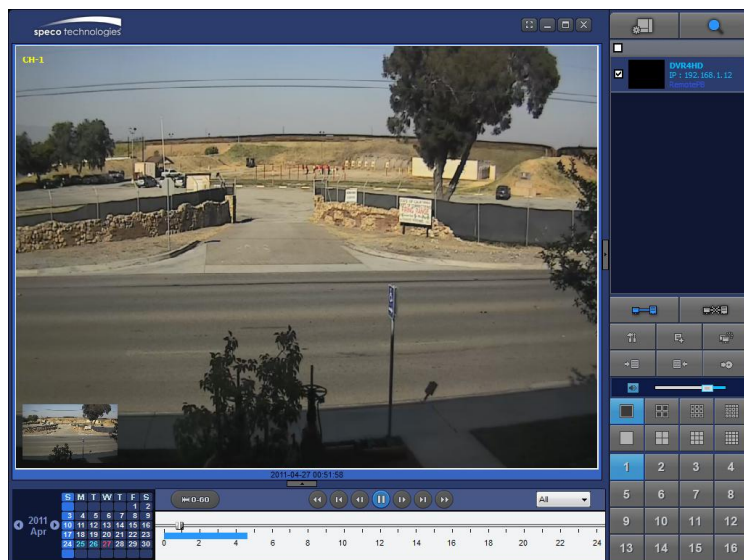
3. Click  CONNECT. And then Green bar displays on Search calendar and timeline scale window.



4. Move the marker on the timeline scale to where there is video data and press the PLAY button.



5. Video data that is recorded on the remote DVR is play-backed.



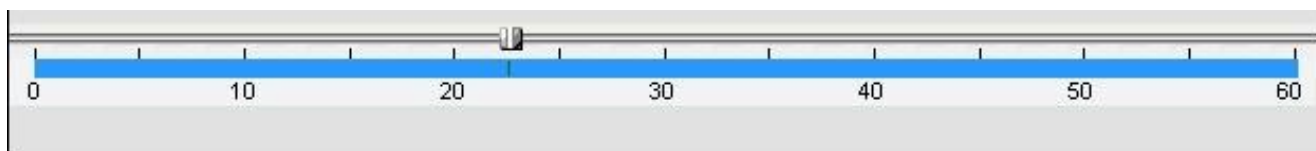
7-8-6. AVI Backup during Playback


You can back up the recorded videos in AVI format during playback.

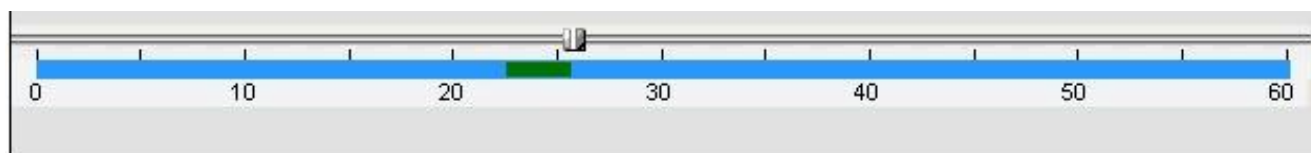
1. Double-click the target channel to backup.
2. Select the beginning time by using the search calendar and timeline scale bar.




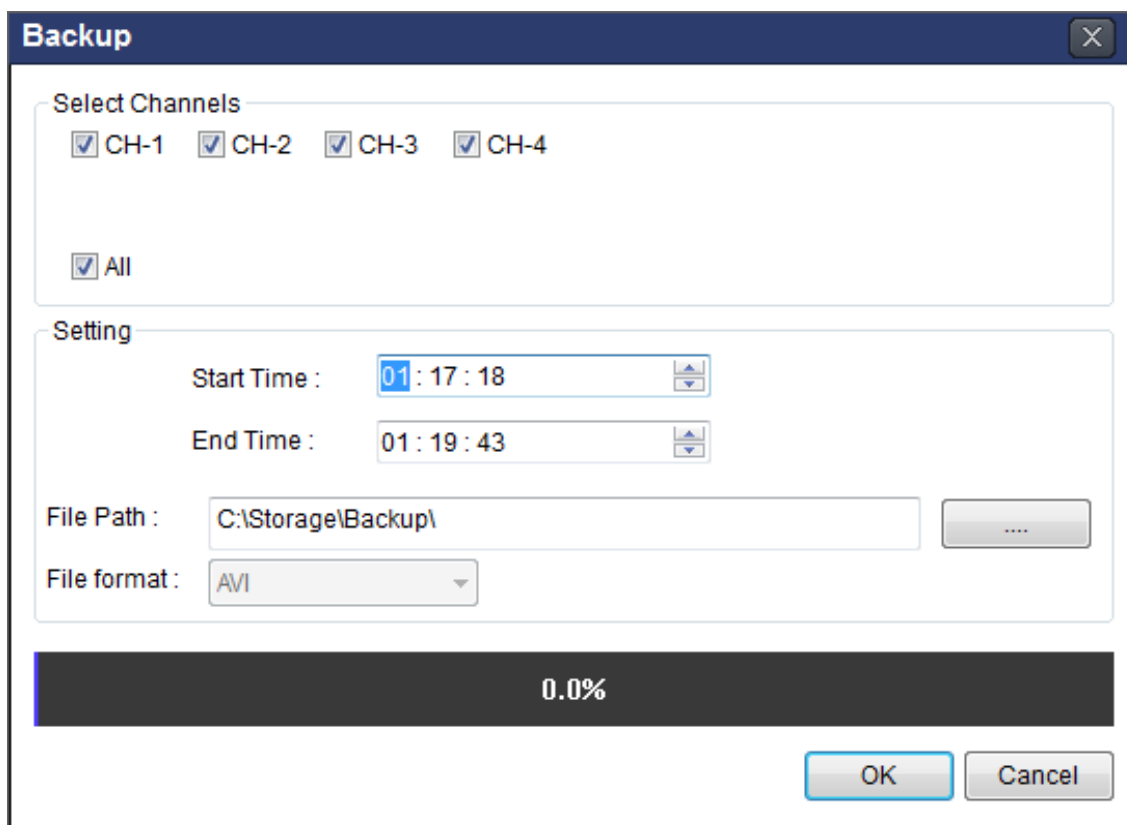
3. Click  EZCOPY START button on the timeline scale to select the beginning point of the backup.



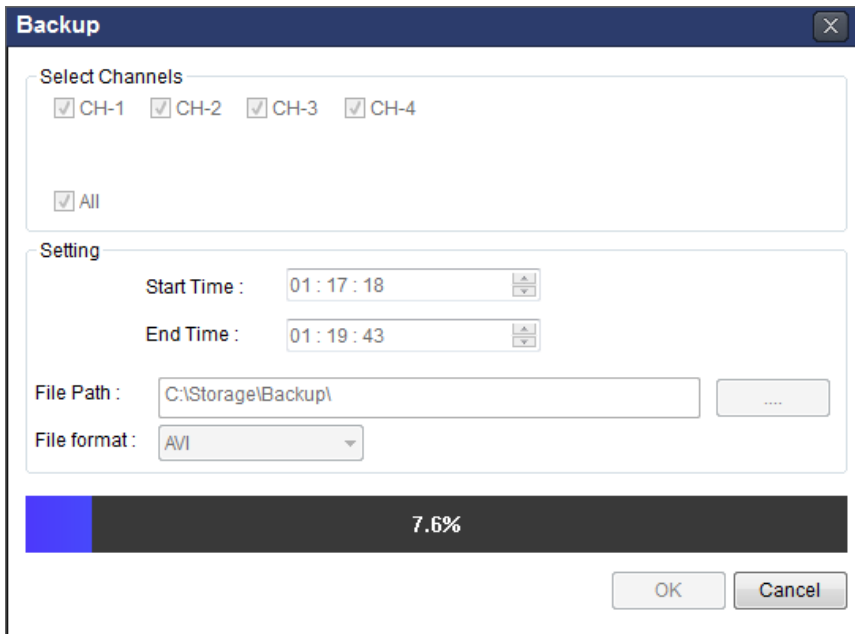
4. Click  EZCOPY END button on the timeline scale to select the ending point of the backup. Then, the selected starting point and the ending point on the timeline scale bar will be marked in green.



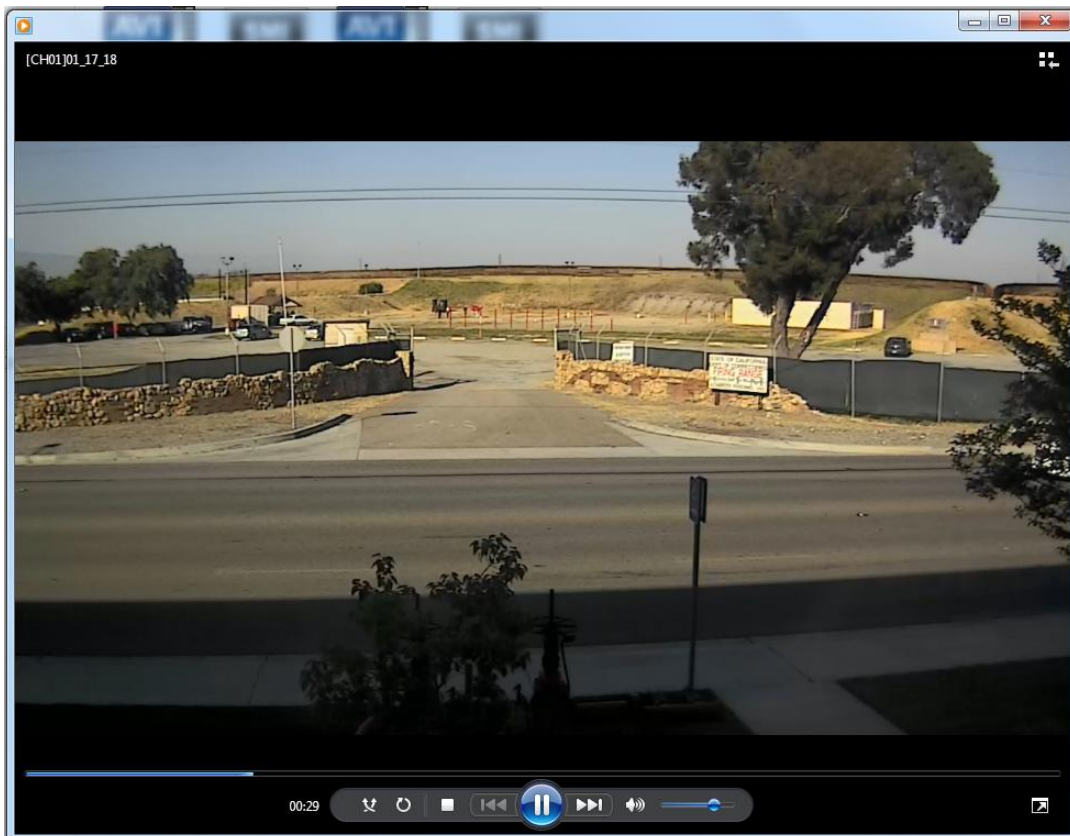
5. Click  BACKUP. And then the BACKUP window will be displayed as below.



6. You can also set the beginning time and ending time on this window. After selecting a channel for backup, click the OK button. The backup will begin.



7. AVI video data is recorded as set in AVI Backup window. AVI format video can be played back by using Window Media Player™ or other media player that is compatible with AVI format video.



8. Network Access Using the Web-Browser Viewer

The DVR provides a live remote monitoring feature by web-browser viewer. (NOTE: Web-Browser is only available for Internet Explorer)

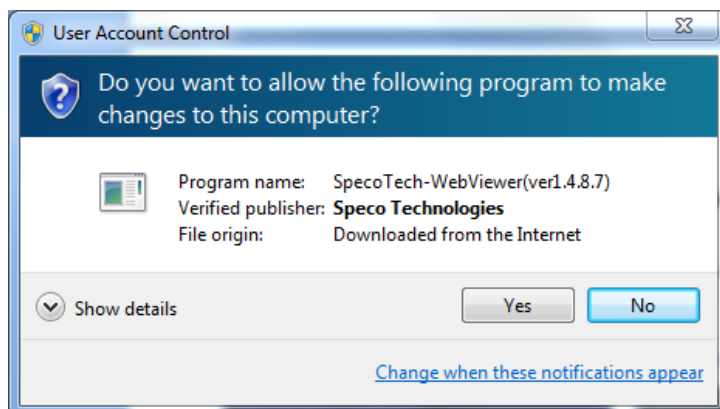
1. Check the IP address of the DVR from SETUP>SYSTEM>DESCRIPTION>IP ADDRESS or
2. Input the IP address or Domain name address that you pre-registered.



3. Click this bar. Then the dialog box is displayed.



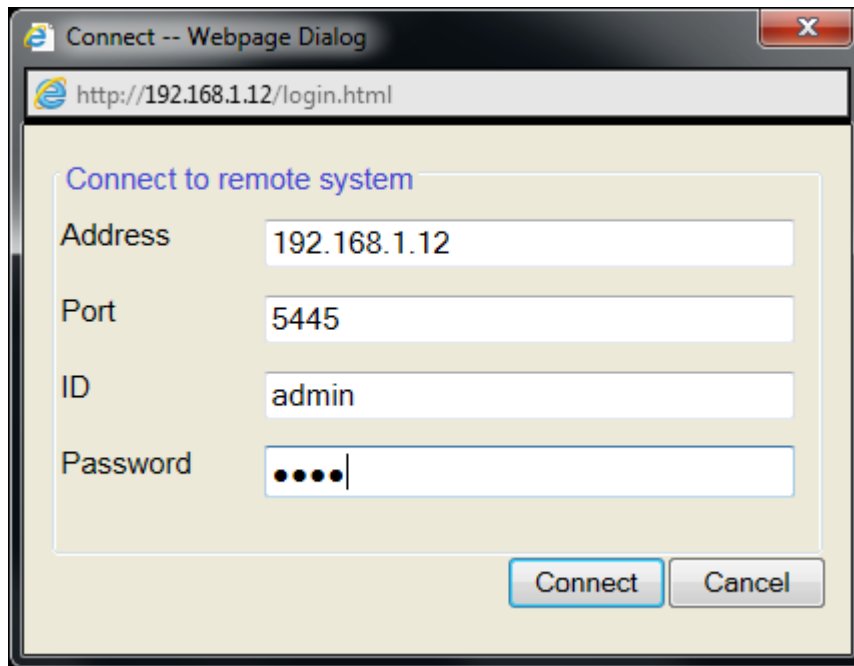
4. Click "Install" to download and install the ActiveX control.



5. The Web Browser Viewer will be displayed as below after the ActiveX installation



6. Click the CONNECT button on the Left upper corner of web-viewer. Then "Connect" dialog is displayed.



- **Site Name:** Input a name that properly describes a site.
 - **IP Address:** Input IP address (Public IP address of a router that DVR is connected.) or Domain name
 - **Port Number:** Default Port Number is “5445”.
 - **ID:** Input ID of DVR. Default ID is “admin”.
 - **Password:** Input network password of DVR. Default Password is “1111”.
7. Then the cameras connected to the DVR are displayed on the screen.
 8. Use mouse scroll to digitally zoom in and out from a single channel display.



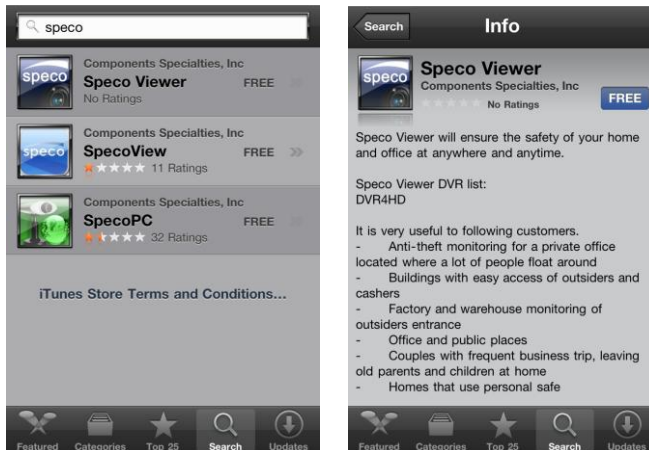
9. Network Access Using the Smart Phone Viewer

9-1. App Viewer for iPhone

1. Enter the Apple App Store.



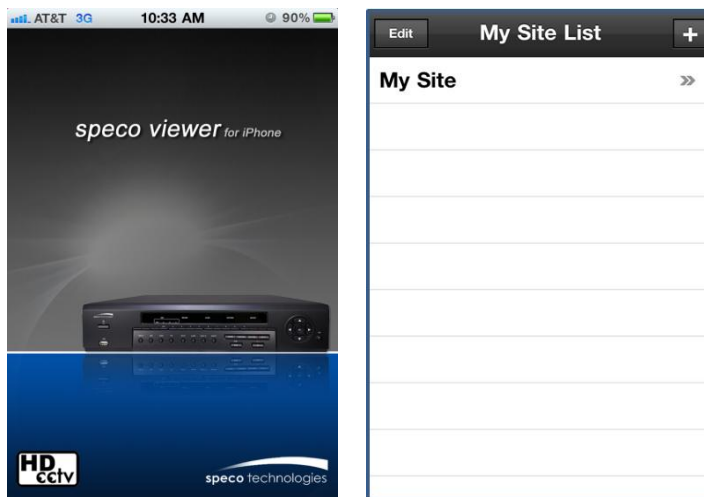
2. Search “Speco Viewer” in the App Store.





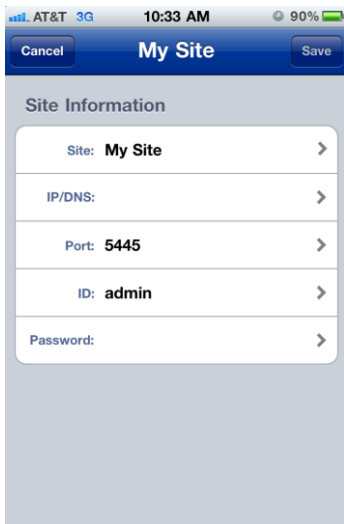
Notice

SPECO VIEWER is for the RS, WRS and HD series DVRs. SPECO VIEWER is not compatible with the T Series DVR's (TH, TN or TL) or the PC Series DVR's.

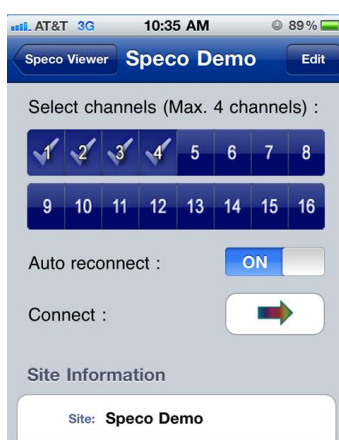
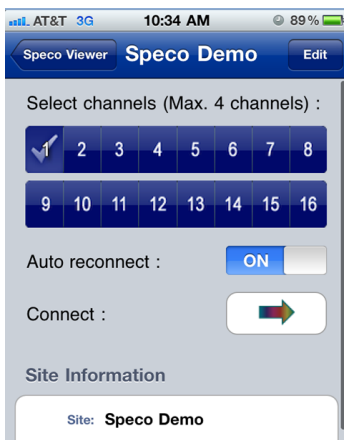
3. Install the “Speco Viewer” app.
4. Open the installed “Speco Viewer” App



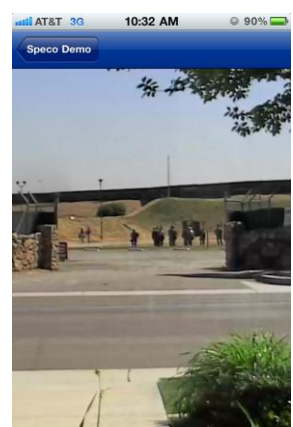
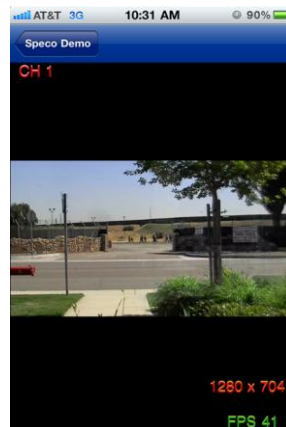
5. Select the  in the top right corner for site addition
6. Input the “Site Information” and select  to save the “Site Information”



7. Select the saved site from “My Site List”
8. Select a channel (s) to view.



9. After selecting a channel, the app will display the channel (s).



Notice

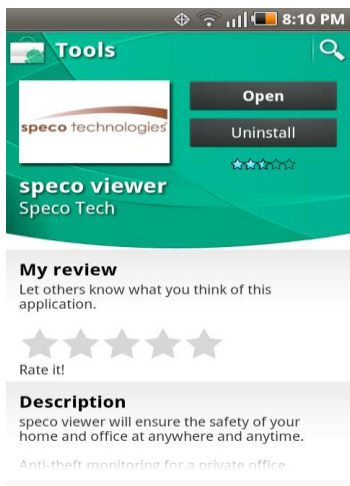
Data Usage applied without Wi-Fi connection. Please check with your Phone Carrier.

10-2. App Viewer for Android Phone

1. Enter the Android Market.



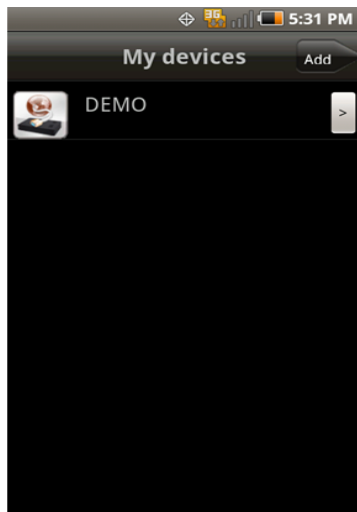
2. Search “Speco Viewer” in the Android Market and install the “Speco Viewer” app.



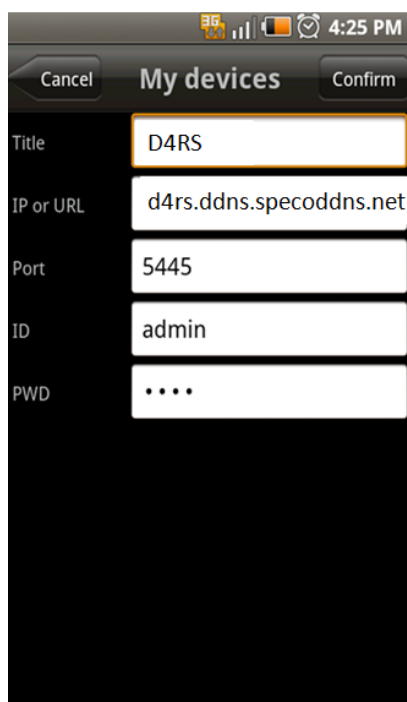
3. Open the installed “Speco Viewer” App



4. Select the ADD in the top right corner for “Site Information”

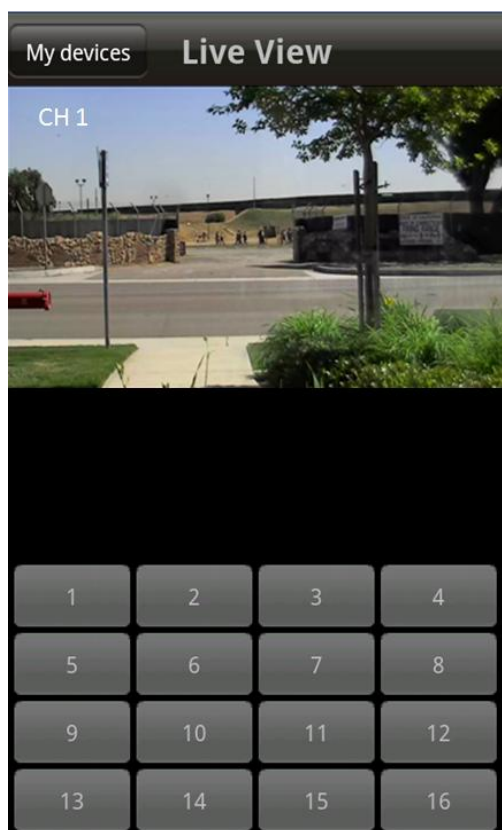


5. Input the “Site Information” and select CONFIRM to save the “Site Information”



The screenshot shows the 'My devices' screen with a dark header bar containing 'Cancel' and 'Confirm' buttons. The title 'My devices' is centered. Below the header, there are five input fields: 'Title' with the value 'D4RS', 'IP or URL' with the value 'd4rs.ddns.specoddns.net', 'Port' with the value '5445', 'ID' with the value 'admin', and 'PWD' with four dots. The background is black.

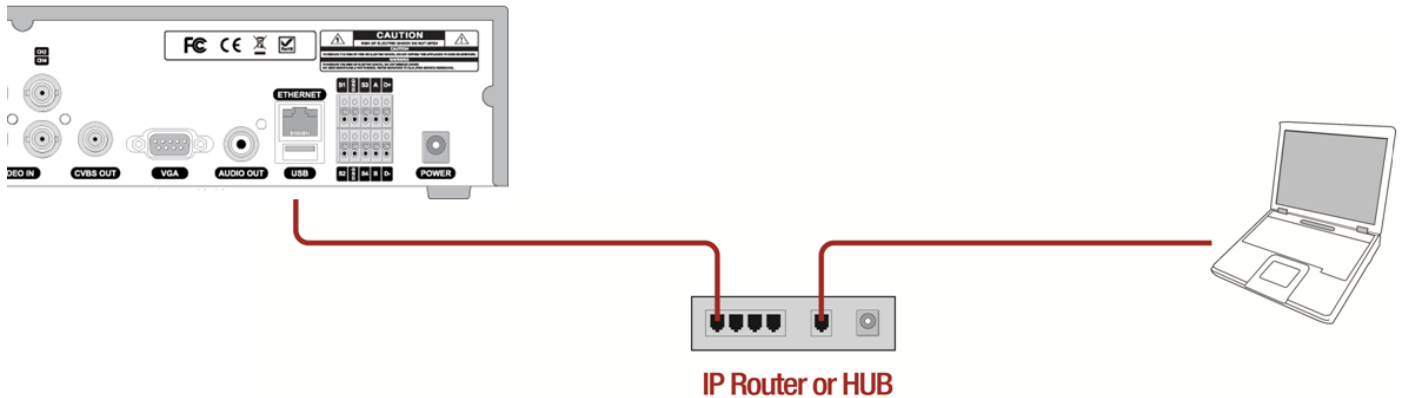
6. Select the saved site from “My Device” for network connection.
7. The app will display the live streaming video.



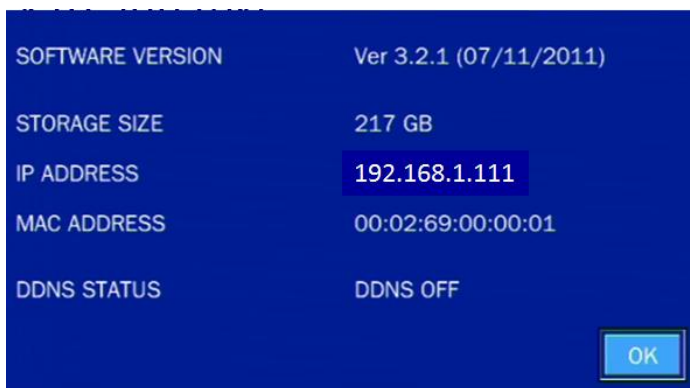
Notice

Data Usage applied without Wi-Fi connection. Please check with your Phone Carrier.

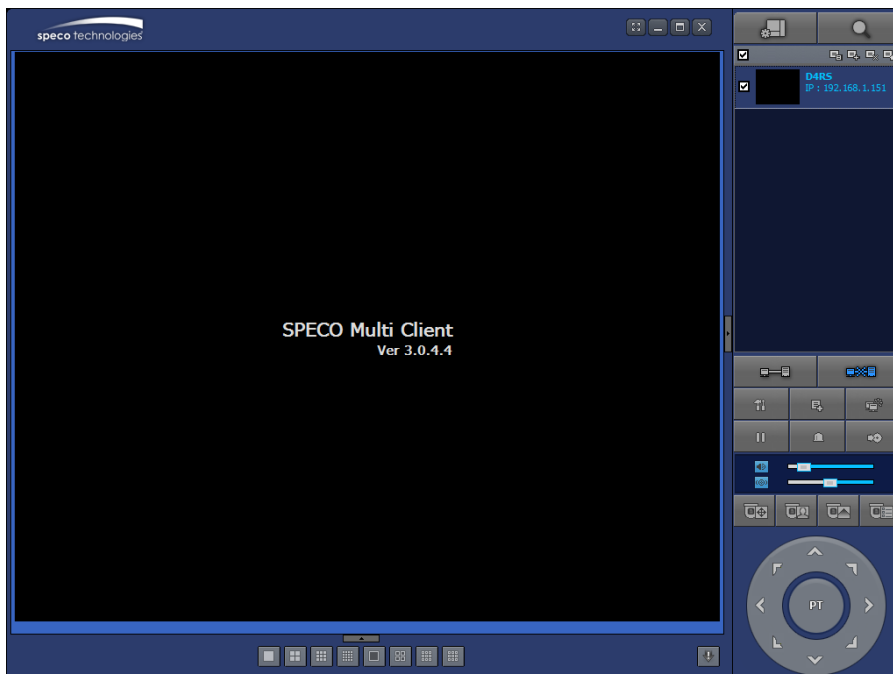
APPENDIX: Network Connection - LAN



1. Install the network client software from the supplied CD.
2. Check the IP address from SETUP > SYSTEM > DESCRIPTION or SETUP>NETWORK of DVR.



3. Run the network client software.



Site Addition

Site Info

Site Name : D4RS

Site Address : 192.168.1.111

Port Number : 5445

ID : admin

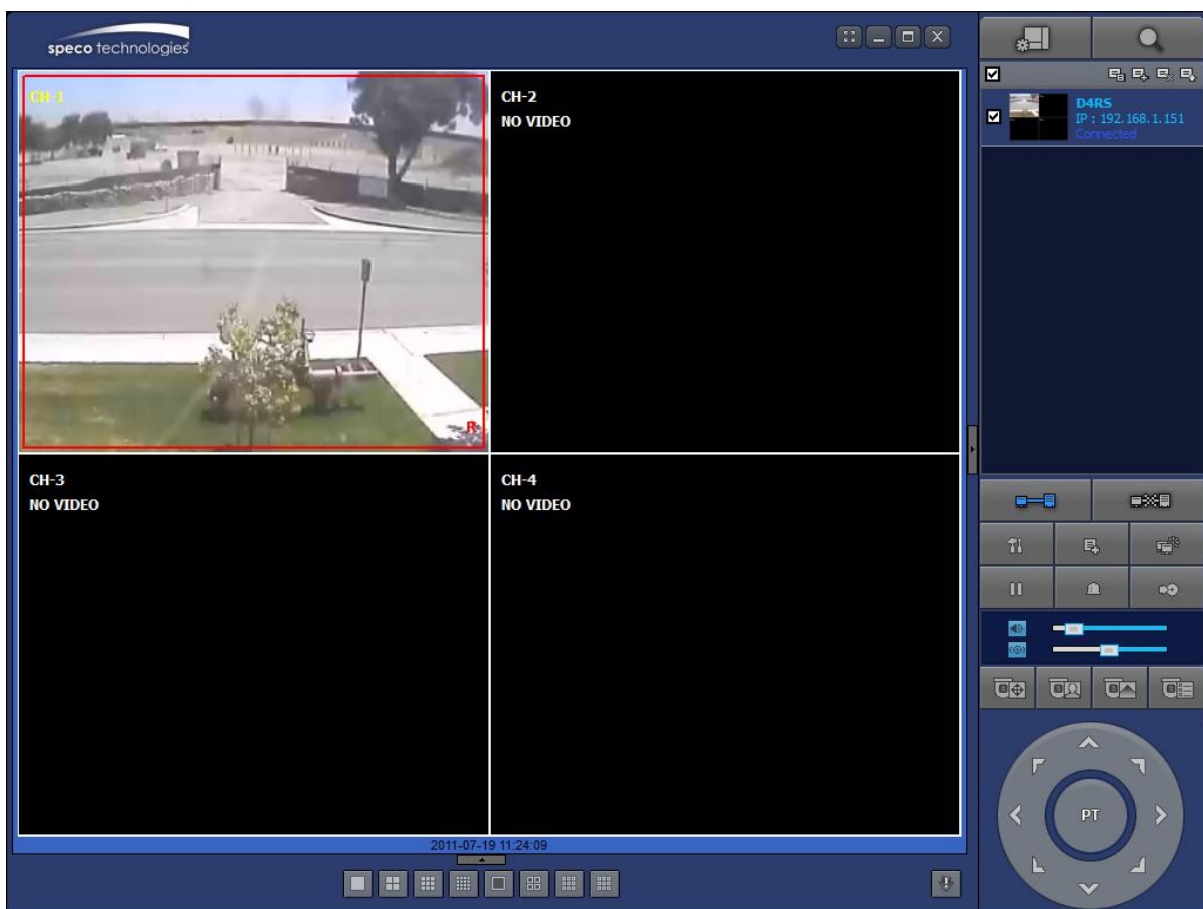
Password : ●●●●

OK Cancel

4. Input Site Name, Site Address (IP address), Port Number, and Password on the connect window.

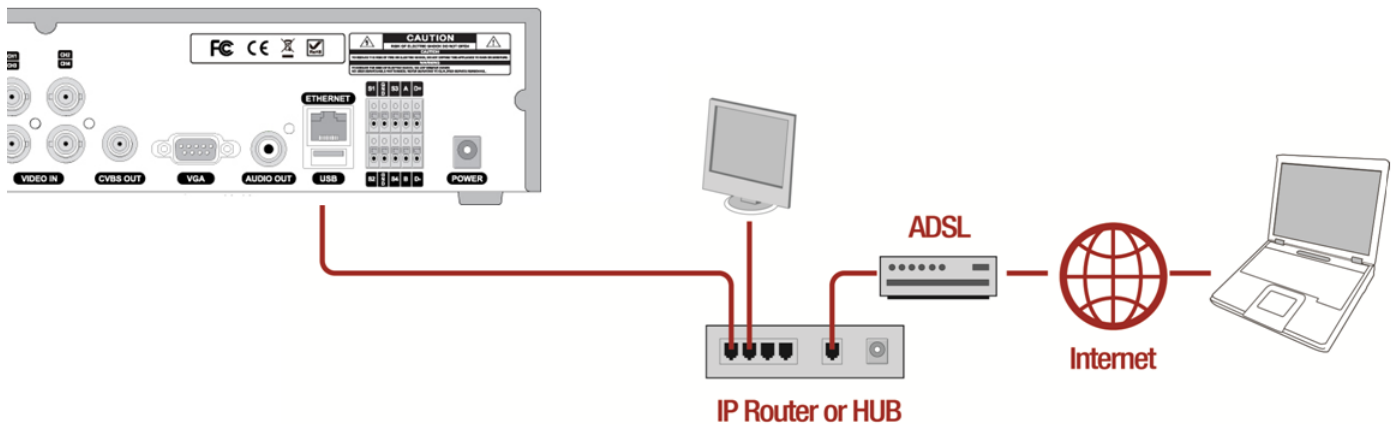
- **Site Name:** Input a name that properly describes a site.
- **IP Address:** Input IP address
- **Port Number:** Default Port Number is “5445”.
- **ID:** Input ID of DVR. Default ID is “admin”.
- **Password:** Input network password of DVR. Default Password is “1111”.

5. Select a site by checking the box, and Press  button to connect to the site.



APPENDIX: Network Connection – Internet and DDNS

Dynamic Domain Name System (DDNS) allows a domain name to be constantly synchronized with a dynamic IP address. A current dynamic IP address is being associated with a static domain name.



1. Go to SETUP>NETWORK>DDNS and set the DDNS SERVER to ON.



If you set **ezDDNS** to ON, the host name is automatically generated and registered.

2. Go to SETUP>NETWORK>DDNS>HOST NAME. Manually enter a domain name using the virtual keyboard and click ENTER button.



- When a manual host name is completed, Go to SETUP>NETWORK>DDNS>SUBMIT/UPDATE and select ON to submit the settings on the SPECO DDNS.

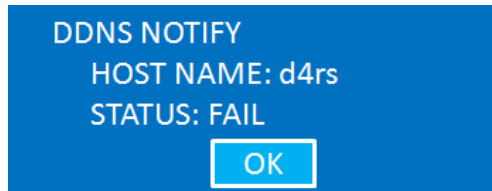
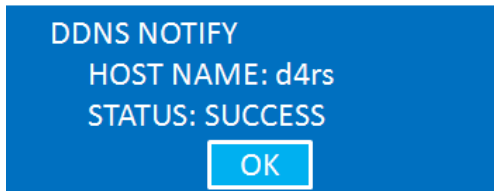
Once the setting is completed, the DDNS address will be:

<http://hostname.ddns.specoddns.net>

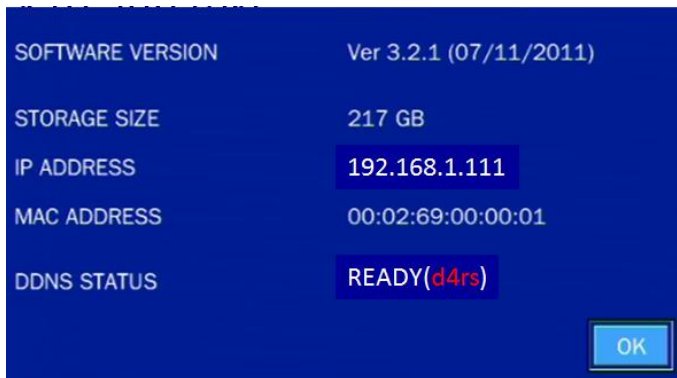
For example, if you enter the host name as "D4RS", then the address will be:

<http://d4rs.ddns.specoddns.net>

- When DDNS setting is done, click the APPLY button. Otherwise DDNS setting will not be applied.
- When you exit SETUP menu, DDNS NOTIFY window will pop up.



- DDNS registration status can be checked from SYSTEM INFORMATION or SETUP>SYSTEM>DESCRIPTION>DDNS STATUS



- Check the NETWORK PORT (Default: 5445), WEB PORT (Default: 80), and the IP Address of the DVR from SETUP>NETWORK.

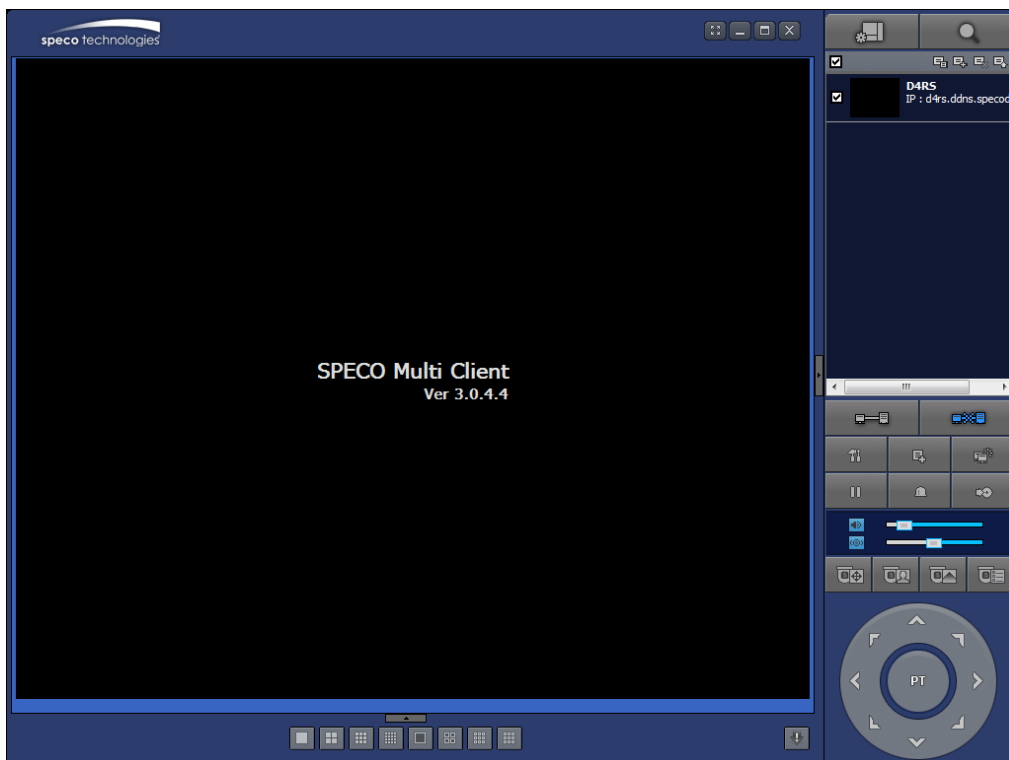


8. Port forward the NETWORK PORT (Default: 5445) and WEB PORT (Default: 80) of the private IP Address of the DVR on the network router.



Please refer to the user manual and guide for the detailed steps for port forwarding for specific router model.

6. Run the network client software.



Site Addition

Site Info

Site Name : D4RS

Site Address : d4rs.ddns.specoddns.net

Port Number : 5445

ID : admin

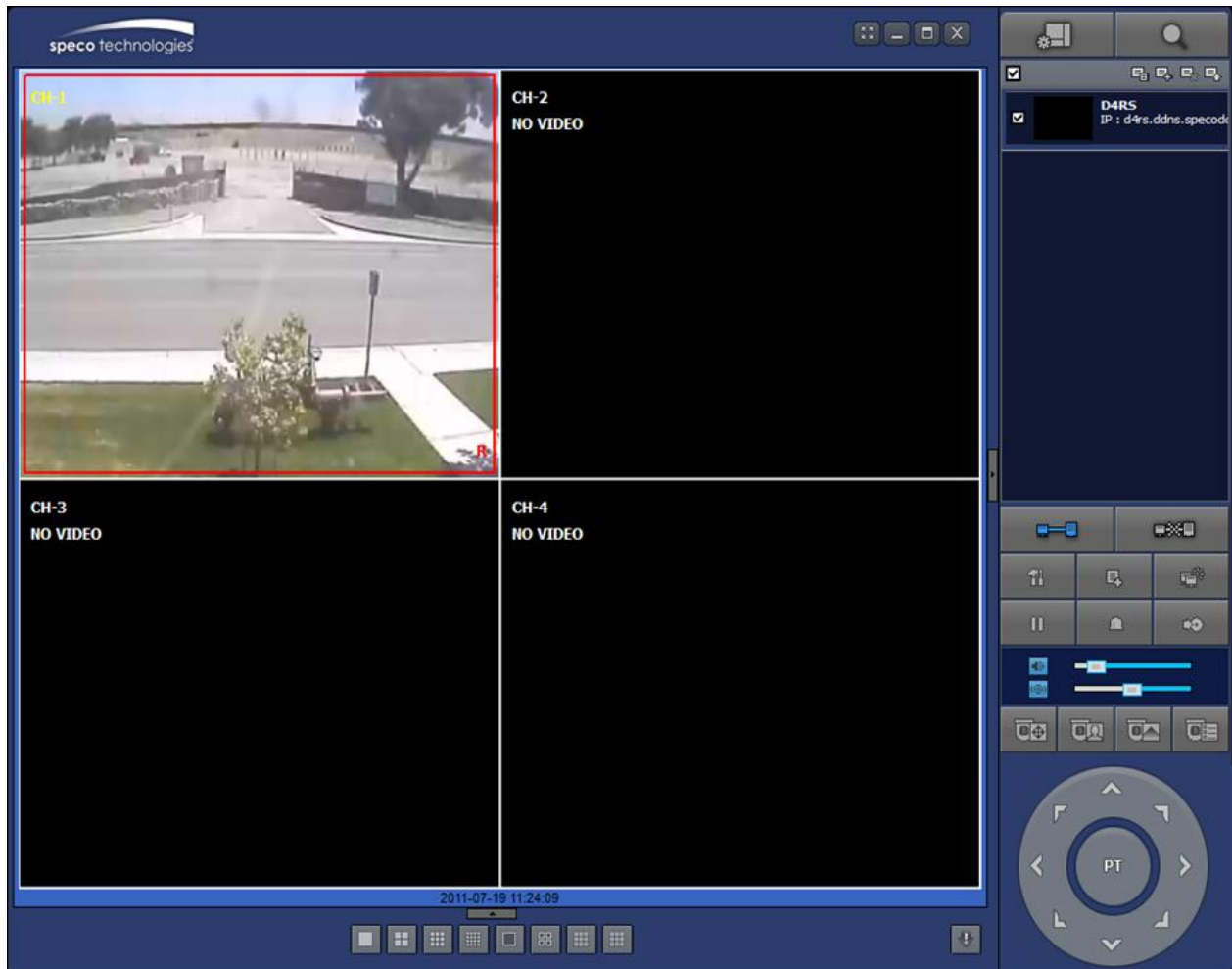
Password : ●●●●

OK Cancel

7. Input Site Name, Site Address (IP address), Port No., and Password on the connect window.

- **Site Name:** Input a name that properly describes a site.
- **IP Address:** Domain name or Public IP address of a router that DVR is connected.
- **Port Number:** Default Port Number is “5445”.
- **ID:** Input ID of DVR. Default ID is “admin”.
- **Password:** Input network password of DVR. Default Password is “1111”.

8. And select the OK button. Then, press  button after checking the left check box.



APPENDIX: E-SATA CONNECTION



**Please read the following instructions before using the E-SATA port.
Failure to do so may cause serious damage to the recorded video.
SPECO is not responsible for data loss caused by improper usage.**

- Use ONLY a new HDD or a HDD that is pre-formatted on a PC.
- Turn off the DVR before plugging the E-SATA HDD.
- DO NOT disconnect the E-SATA port while the DVR power is on.
- The purpose of the E-SATA port is to extend recording capacity.
- Once connected, DO NOT remove or disconnect the E-SATA port from the DVR.
- The E-SATA port does not support the hot swappable function.